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CHILDREN'S FOOD



WILLIAM FLEMING FRENCH

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Your children's food : what it is and why

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Why **CALUMET**?

Because—

CALUMET has an important function to perform in nutrition, acting, as it does, as an agent necessary to the proper utilization of other foods.

Its work is to make foods more nutritious; to add to their digestibility and to make them more attractive both in appearance and flavor.

There are many foods of great value that are seldom seen on the American table—seldom seen because they are not in themselves able to tempt the modern appetite.

Foremost among these foods is bran. This food is not only rich in the ultra-valuable mineral salts but is also a great body regulator and ration balancer. It is one of the finest health foods known to man. This book will teach you that.

Alone and unprepared it is anything but attractive, but when correctly combined with other foods or made into muffins, biscuits, sweet cakes and the like it is most tempting. And CALUMET is the agent through the use of which this valuable food is changed from an unappetizing mash to a tasty dessert, a tempting breakfast morsel or a substantial bread.

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more appetizing and easily digestible at the same time.

CALUMET is the magic that transforms unappetizing, though valuable, foods into delicious treats for adults as well as for children; that makes more easily digestible and harmless the foods which under ordinary circumstances cause trouble for the delicate stomach.

Try the recipes shown in the Calumet Advertisement on page 71, and see why CALUMET is called the key to good health.

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Your Children's Food

WHAT IT IS AND WHAT IT
MEANS TO THEM

By WILLIAM FLEMING FRENCH

Being a popular presentation of the vital subject
of nutrition — with an understandable
explanation of the findings of the
world's greatest authorities

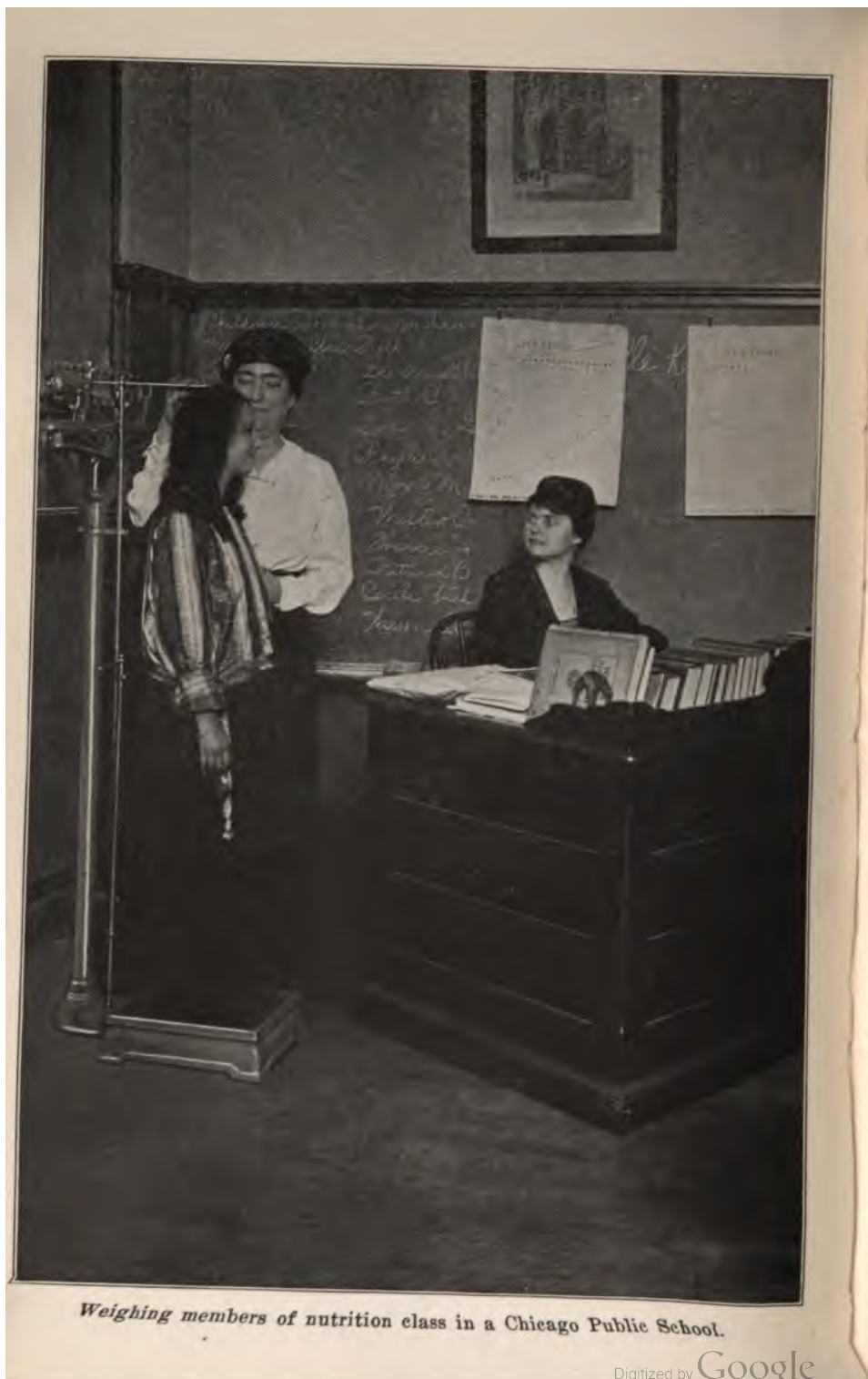
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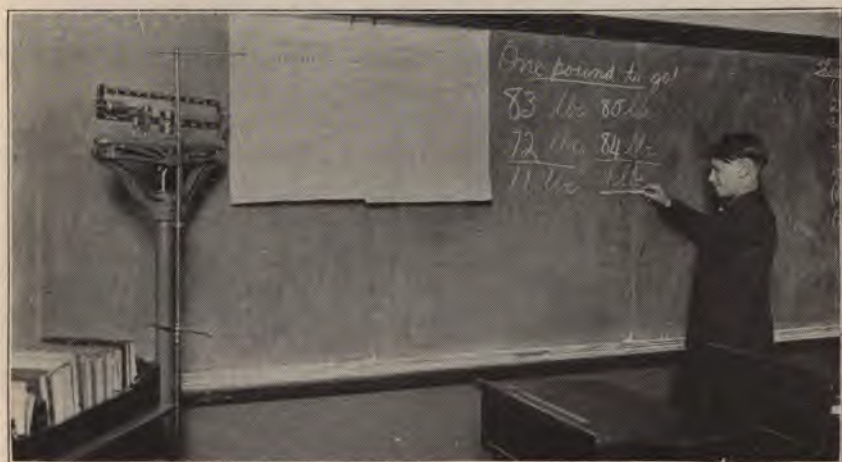
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Weighing members of nutrition class in a Chicago Public School.

Our National Hunger Squads

WHAT is all this talk about malnutrition, about improperly fed children, about subnormals and their myriad of physical ailments? What are the nutrition clinics and the nutrition classes—and why is the government spending millions of dollars a year preaching these things to American mothers? Why, too, are civil and state institutions and public and private organizations spending ten times as much for the same purpose?



Schoolboy checking results of four months in nutrition class.

Why are the magazines and newspapers full of the subject and why are the articles, warnings, suggestions and criticisms always aimed at the mother and the housewife?

Is all this of real importance to the average mother, and is there any actual fire behind all this smoke? In short, is it a problem that every mother faces and is it as serious as we are led to believe? And if it is a problem for the mother to solve is there any simple, understandable way she can do that right at home?

First of all malnutrition means under-nourished, not properly fed. It means that the body has not had enough of the right kinds of foods to properly sustain and develop it.

Malnutrition is an active menace because it indicates that the body is being starved or poisoned and therefore improperly developed and weak. It means that the person improperly nourished has not had an opportunity to develop fully mentally, physically or morally. And it further means that because of general weakness due to undeveloped strength the mal-nourished have weakened powers of resistance and become easy prey to sickness, disease and fatigue.

Nutrition clinics are clinics engaged in correcting the mistakes and failings of the mal-nourished, practical health clinics teaching us how to nourish ourselves and our children. Nutrition classes are classes in which the under-nourished are enrolled and taught to remedy their own condition. Nutrition classes are now in operation in public schools, community centers, churches, hospitals and charity organizations.

The present-day drive for proper feeding is due to the discovery that malnutrition is menacing the welfare of the entire race, and the mother is the object of the drive because she is the one that actually feeds the children—and the grown-ups, too. Without her co-operation all the money and brains and means possessed by the government and by the hundreds of other institutions and organizations could accomplish practically nothing in the way of actually stamping out malnutrition. Experts may experiment and devise and exhort, but the mother feeds. Correct feeding is possible only when the mother makes it so.

Therefore this great drive against malnutrition will be as successful as American mothers make it. And that is why the government is sending mothers books and pamphlets and letters and charts on nutritional feeding, and why the magazines and newspapers are drumming away at it, month after month.

That, too, is why public schools all over the country are establishing nutrition classes, mid-day lunches and milk counters, and why they are urging mothers to co-operate with them.

And how serious is the danger of malnutrition? No one knows—its influences are so great and far-reaching that the actual harm done by it cannot be determined. This much, however, is known—there are more than six million mal-nourished children in the public schools of America—and more than a million of them are suffering from disease and backwardness *due to malnutrition.*

In New York City 171,661 school children were examined for

malnutrition and of that number only 17.3% were found to be perfectly nourished. 61.3% of the children examined were found 14% or less under-nourished and 18.5% of the children were found seriously under-nourished.

Another city, Chicago, showed the following when five thousand of its representative school children were carefully examined and weighed and records of their conditions made: 40.5% of the children were under-weight and 25% were seriously under-nourished. One school in Chicago established a record of 37% of its students being seriously under-nourished.

"Ah, the poverty of the city poor," you no doubt say. But such is not the case. In fact poverty seems to have no bearing on the condition at all, unless it is to prevent under-feeding instead of causing it. For the larger percentage of the under-nourished children were found in the districts inhabited by the middle class and the well-to-do, and not in the slums and the poor neighborhoods.

The school showing the smallest percentage of malnutrition, or 16.2%, is, for example, located in the district "back of the stock yards" (one of the poorest neighborhoods in the entire city), while a school in a suburb where comfort and wealth abound shows an alarming percentage of 57.7% or, of the ninety children attending, forty-two were found to be under-weight and hence not sufficiently nourished.

So we have proof that malnutrition is not a disease of the poor, but is prevalent among the middle class and well-to-do; that the greatest offenders are not ignorant foreigners, but well-educated Americans—that it is not the result of poverty, but of neglect.

Nor are the ravages of malnutrition native to the city alone—for the United States government has found, through its own investigations, that the children of the small town and rural communities are even more subject to malnutrition than are their city cousins.

And in the rural districts the mother must be depended upon more than ever to conduct corrective feeding methods—in fact, she must rely almost entirely upon herself at this time. Later, nutrition classes will be brought to rural districts, but until then the government's sole hope for proper feeding rests upon its ability to interest, inspire and instruct the mother.

It is to help in this work that the book you are now read

ing is written. Its mission is to convey to American parents, in plain, understandable language the findings of the great food experts and to present to them the simple elementary principles of nutrition necessary to an understanding of what our foods are and how they nourish. Once this is understood the selection of proper foods is greatly simplified.

To make practical and readily available to the average parent the information contained herein, chemical tabulations, caloric tables, food lists and menus are presented in such a way that they can be referred to from time to time during the process of planning diets, menus or meals.

This is not a chemistry of nutrition—merely a book that explains the work of each kind of food and points out why variety is as necessary as quantity in regard to the foods we eat.

Because you see, as you glance thru the following pages, references to calories, carbohydrates, proteids, enzymes, vitamins and the like, is no true indication that this is a treatise of the chemistry of nutrition or that it contains technical terms and phrases deep enough to drown you.

As a matter of fact the terrifying calorie is no more to reckon with than the ounce or the quart, and the carbohydrate is merely another name for sugar and starch. The vitamine is no more complicated than the phonograph and we believe you will find it equally as interesting. Surely you will soon be satisfied that it is infinitely more important than the music box.

Because there are more than six million mal-nourished children in America, because over 30% of the adults of America are suffering from some disease or handicap caused either directly or indirectly by improper nourishment when children—that is no indication that you cannot protect your child from the shadow of malnutrition, and do it without a special college course in nutritional feeding.

We will preface everything else in this book with the promise that if you will make certain that your child possesses no physical defect that will prevent his system from drawing the required nourishment from proper foods; that he is taught clean living habits; that he is not allowed to bolt his food or say when and what he shall eat; that he gets plenty of sleep, plenty of good pure water, and unlimited quantities of fresh air; that he *is fed a variety of plain, wholesome foods, especially cereals, fruits and fresh vegetables*, a quart or more of whole milk a

day, and is given only a limited amount of sweets and highly seasoned foods, he will not suffer from malnutrition.

Under the conditions outlined above not one child in one hundred would be under-nourished.

That is all there is to correct feeding. All that follows is merely information and suggestions to enable you to determine which foods are best adapted to your child, and why.

The percentage of material contained in this book is not new—but, unfortunately, it is little known. At least it is little known to the average housewife, and our sole aim in presenting this is to bring into your own home the most authentic information on food matters that we have been able to gather.

It is possible you have seen some of the material contained herein published in the U. S. bulletins; perhaps you have seen it in popular magazine articles; possibly you have found it in medical journals, or you may even have been taught it at school or college.

We doubt, however, if you have been fortunate enough to have received, thru any of these sources, all the information that this book offers you in simple and available form.

Our investigations have proven that but a very small percentage of the mothers of America have been able to avail themselves of the valuable information on nutrition offered by the various colleges throughout the country, compiled and issued in booklet and bulletin form by the U. S. government and contained in the various works of the great food authorities of America—so we have undertaken to gather the most widely accepted teachings, to reduce them to simple terms and present them in a manner that will enable the average mother or housewife to make use of such data and suggestions as she may find helps solve her own problems in the feeding of her family.

This booklet does bring you new and unreported findings in respect to nutritional feeding, however, and especially in respect to the feeding of children.

The new findings referred to are those being made in the public schools of the country, in the schools where nutrition classes are in progress. The chapter, "The Backward Child," not only tells of the marvelous growth of this great movement to stamp out malnutrition in the public schools but also explains in detail just how this is done, giving full instructions for the establishing and conducting of such classes.

The Balanced Ration

THE essence of correct feeding is simply this: To give the right amount of balanced rations at the right times.

In other words, "proper feeding" really spells "balanced rations."

Therefore, the housewife wants to know exactly what the balanced ration is? Why it is necessary? How it can be obtained and what happens if it is not secured?



Jellied veal and vegetables—an excellent summer dish.

The food we eat is composed of fifteen chemical elements—as are also our bodies. Not only do our foods and our bodies contain the same number of chemical elements, but also the identical ones. It is, therefore, plain to see that to keep the body in its proper condition and to permit it to function correctly, we must supply it with all the chemical elements contained in our foods. This means that we must give the body regularly every element contained in our foods.

The composition of the body is about the following:

Oxygen	about 65	per cent
Carbon	about 18	per cent
Hydrogen	about 10	per cent

Nitrogen	about	3	per cent
Calcium	about	2	per cent
Phosphorus	about	1	per cent
Potassium	about	0.35	per cent
Sulphur	about	0.25	per cent
Sodium	about	0.15	per cent
Chlorine	about	0.15	per cent
Magnesium	about	0.05	per cent
Iron	about	0.004	per cent
Iodine }	very minute quantities		
Fluorine }			
Silicon }			

The fact that the quantity of the various chemical elements obtained in the body varies so greatly, indicates, of course, that the amount of each of these various chemical elements furnished by the foods must differ accordingly. The body needs, for example, many times as much oxygen, carbon and hydrogen as it requires calcium or iron. Nevertheless, these last two are absolutely necessary to our physical welfare.

A balanced ration, it will therefore be seen, is a ration or combination of foods that supply all these chemical elements in correct proportion.

The principal needs of the body are catalogued under four heads: **PROTEIN, FATS, CARBOHYDRATES and MINERAL SALTS.**

PROTEIN is that part of the food that supplies the "building materials" from which the flesh, muscle and tissues are made for the body. Therefore, Protein is known as the "body builder."

FATS and CARBOHYDRATES are utilized to furnish energy to the body, and for that reason are known as "body fuel."

MINERAL SALTS furnish the chemicals from which are formed the solutions necessary to the digestive process and other chemical actions of the body. **SALTS** also furnish the chemicals necessary for the making of bones and teeth, and for the renewing of tissues.

We have not sufficient space to permit a description of the various functions of each of the salts entering the human body, and it must therefore suffice to say that when any of them are excluded, the body does not function properly, and serious complications result.

It is almost as dangerous to furnish an over-supply of any one of the principal nutritive elements as it is to neglect to

furnish enough. For example, a diet too heavy in sugar, starch and other carbohydrates that leaves a deposit of acid in the system which the alkaline salts of other foods cannot neutralize will cause acidosis, pellagra or some other disease resulting from this condition.

Too much meat, on the other hand, will cause an over-supply of protein, and then follows kidney and liver troubles. Too much fat will overload the system with "stored energy," which



Coffee and cookies—the wrong kind of breakfast.

is simply fat on the body and about its organs. Obesity and its various complications is the penalty for this.

In order that the average housewife will know what foods furnish these various nutritive elements, the following table is given:

SHOWING THE CHEMICAL COMBINATIONS, AND THE SOURCES
FROM WHICH THEY ARE DRAWN

PROTEINS

(Milk, cheese (especially skim-milk cheese).
Eggs.
Meat (lean meat in particular).
Poultry, game.
Fish.
Cereals, corn, wheat, rye, oats, etc.
Bread and breadstuffs (crackers, pastry, macaroni, cake).
Beans, peas, lentils.
Cotton seed.
Nuts.
Gelatine.

CARBOHYDRATES

{Wheat, products (bread, cake, crackers, pastry, macaroni, spaghetti).
Cereal grains, breakfast foods.
Corn products, corn meal, green corn.
Rice, sago, tapioca, taro.
Potatoes (white and sweet).
Starchy fruits (bananas).
Sweet fruits (oranges, grapes, pineapples).
Dried fruits (prunes, dates, raisins, currants).
Sugar cane, sorghum cane.
Sugar beets, sugar maples.
Products made from sugar (candy, jellies, preserves, marmalade).



Milk, cereal, whole wheat bread, fruit—an ideal breakfast.

FATS

{Butter, cream, cheese.
Olive oil, cotton seed oil, peanut oil, corn oil, almond oil.
Soy bean.
Corn meal, cotton seed meal and flour, oatmeal.
Pork (bacon especially), other fat meat.
Codfish (and other fatty fish).
Eggs (yolk).
Cocoanut, chocolate.
Brazil nuts, almonds, pecans, and other nuts rich in fat.

WATER

{All foodstuffs except those which have been put through a drying process.

MINERAL SALTS
(Organic form)

{Nitrogen (in proteins, meat, eggs, milk, fish, gluten of wheat, zein of corn meal, legumen of beans, peas and lentils).
Phosphorus (eggs [yolk especially], cream, vegetables, whole wheat, cereals, breadstuffs, oatmeal, dried beans and peas).

IRON (Organic and inorganic form)	{ Eggs, milk, lean meat, cereal products, whole wheat, dried beans and peas, vegetables (spinach in particular), onions, mushrooms, fruits, port wine.
CALCIUM (Organic and inorganic form)	{ Milk.* Eggs. Soft tissues and fluids of all animals, skeleton and teeth of animals. Wheat (the entire grain), flour, oatmeal, rice. Dried beans and peas. Green vegetables (beets, carrots, parsnips, turnips, potatoes). Fruits (apples, bananas, oranges, pineapples, dried prunes). Nuts (almonds, peanuts, walnuts).

*One quart of milk contains more calcium than a quart of clear saturated solution of lime water.

SULPHUR (Organic and inorganic form)	{ The Proteins } Lean beef, eggs, milk. Wheat flour, entire wheat, crackers, etc. Oatmeal. Beans, peas. Potatoes.
SODIUM, POTASSIUM, MAGNESIUM, IODINE, CHLORINE	{ These elements are associated with the other mineral salts in foods, and a diet in which they are adequately supplied furnishes sufficient magnesium, potassium, chlorine, sodium, and iodine for the general needs of the body.

To balance a ration, we now see, we must plan a menu containing foods giving us a balance of these four nutritive elements, i. e., PROTEIN, FAT, CARBOHYDRATES and MINERAL SALTS.

A glance at the table above will indicate how you can plan such meals. It shows us, for example, that meats of all kinds are rich in protein. That meats, especially lean meat, is particularly high in protein, as are also beans, nuts, cereals, cheese, eggs, fish, etc., and therefore, we should not serve a menu containing eggs, meat, cereals and nuts all in one meal. Nor should we destroy the balance of our day's feeding by supplying an excess of carbohydrates, which will be found in foods high in either starch or sugar. Thus, we see that we should not serve bread, rice, potatoes—foods rich in sugar and starch—in the *same meal*. Nor should we let our menu become overbalanced *with fat meats, butter, cream, various oils, chocolate or anything rich in fats*.

The best way, of course, is to plan a meal so the menu will contain a balance of protein, fat, carbohydrates and mineral salts. It is to secure such a balance that potatoes, which are rich in carbohydrates, are served with meat, rich in protein. That fish, which is high in protein and often very low in fat, is served with butter sauces. That butter is served with bread to add fat to the protein and carbohydrates of the bread.

Fortunately, there is little fear of excess of mineral salts, and it is only in cases of digestive disorder and special diseases that an effort to reduce or limit the amount of mineral salts is made.

It is also fortunate that our natural appetites are tuned to meet our nutritional requirements, and it is for that reason that we combine macaroni and tomatoes, ham and spinach, oils and fish, and thus we unknowingly, thru desire to please our palates, assure ourselves a supply of mineral salts and acids, when we are eating foods over-rich in fat or protein, and that we combine fat with foods rich in protein but lacking in that quality.

The "Backward" Child

PERHAPS the gravest problem of the public school—and the sorest trial to the average school teacher—is the "backward" child. Every school class has one or more of them. This



Children of same family. Boy undernourished. Girl normal.
Due to different food habits.

"backwardness" may be due to an apparent dullness, to nervousness, to lack of interest, to fits of temper and "tantrums," to physical ailments, or to some indescribable something that no *one seems to be able to diagnose.*

In the past we have depended upon the standard "cures" to correct the ailings and failings of the backward child. Foremost among these cures are extra study, which means long hours of drilling and cramming while the other children are at play; discipline; sympathetic guidance; special classes; rest; medical attention, and general "tonics."

Almost every conceivable plan and idea is tried by the harrassed teachers and the suffering parent—for the knowledge that one's child is backward, is not as bright and active and apparently not as intelligent or strong as other children, is harrowing, to say the least. But their efforts have met with indifferent success. Often, in fact, the cure has merely tended to aggravate matters, to make a bad situation worse—as in the case of extra study and "tonics." To deny a child sufficient rest and play in the open air is wrong, and to fill its system with a miscellany of patent medicines and tonics is unpardonable. Both courses are in direct contradiction of nature's laws and demands. Tonic should be given only under direct medical supervision—and sparingly then.

Additional hours of study will not help; for the trouble may be a result of over-fatigue, of the lack of enough play and fresh air or of a physical defect.

But how, the mother might reasonably ask, can this little book help her solve so serious a problem as this; how can it show her how to give little Johnny or Mary a chance to keep up with the other children in the school? Surely it does not claim to be a cure-all, or to possess knowledge not shared by the medical fraternity of America?

No, it does not; it claims merely to be a convenient and easily available compilation of the best and most recent nutritional findings of the foremost experts of the world. And one of the most recent findings—one not yet presented to the public at large—is what the nutrition class can do for the public school.

The average parent or teacher does not know that the sickness, under-development, backwardness and general "off color" of children is usually due to improper nourishment—that correct feeding can prevent 90% of these troubles, and that corrective feeding can cure 70% of the cases that have developed. Perhaps they know, and perhaps they do not know, that it is far easier to prevent such troubles than it is to cure them; and, also,

that the right sort of food properly administered affords the children practical immunity from the common ills of childhood.

But the foremost experts in America are proving this—and proving it in hundreds of schools throughout the country. They have called our attention to the fact that very few of us realize; that less than one-tenth the time and thought is given the problem of proper feeding that is required to correct the troubles



Correct feeding spells good health and happiness.

resulting from our failure to observe the simple rules of child nutrition. Very few of us understand the significance of the fact that the average doctor receives twenty calls to cure the ills resulting from improper feeding to every request he receives for information on what should be fed. They also call attention to the fact that the physicians of America write half a hundred prescriptions for drugs to every prescription for food.

That means Mrs. Brown or Mrs. Johnson spends ten times as much worry, labor and money curing Johnny's or Mary's *stomachache* as she does trying to prevent it; that she will call *a doctor twenty times* to treat that stomachache or earache or

nervousness or other trouble before she will call on him once for information as to what to feed the children so she will not require his curative services; that she is likely to go to a drug store fifty times with prescriptions for drugs to every trip she makes to her pantry with a prescription for food. This, of course, proves that very few parents appreciate the necessity of prescribing food to keep children well, and think of the word "diet" as belonging exclusively to the sick room vocabulary.

No one deplors this condition more than do the doctors themselves, for they are not only able, but anxious, to direct mothers in child feeding—but they can render only such services as they are called upon to perform, and they are seldom asked to supervise the feeding of growing children.

There are, however, certain angles of this work in which a physician is indispensable; in the correcting of physical defects, for instance, and in the supervising of health habits and the preventing of over-fatigue.

One point must be clearly understood before success can be secured by corrective nutrition; the child must be in a condition permitting of improvement. Physical defects prevent this. The child with diseased tonsils, adenoids, or perhaps suffering from tuberculosis, cannot be brought up to proper standard by the feeding of all the food in the world.

Dr. William R. P. Emerson has prepared a list of five reasons for malnutrition which are: physical defects, lack of home control, over-fatigue, improper food habits and improper health habits.

All these conditions must be removed before a child can be expected to show permanent improvement.

Correct feeding is the most important habit a child can form; far more so than correct speech, correct manners, and infinitely more vital than anything now included in the courses of the American Public Schools. Yet while the public schools have finally reached the conclusion that their province is not only to train children mentally, but physically and morally as well, with the resulting establishment of gymnasiums, swimming tanks, setting-up exercises, etc., but few of them have awakened to the vital fact that all their work in developing and training minds and morals will go for little unless they teach the child the most important lesson of all: right feeding.

The responsibility for correct feeding, and therefore for protection against disease, under-development and general weakness does not rest with the family physician any more than does the responsibility for keeping the child from breaking his leg or his neck or catching the mumps or sampling Paris green. Preventive measures, proper feeding, are up to the parent—and the teacher. Yes; to the teacher and the public schools. And we will see that the wide-awake parents, teachers and schools are beginning to gain a clear impression of the paramount importance of this work.

Of course children must have the right kind of food, every parent agrees, but in the same breath they add that their children are given good nourishing foods, and lots of them. In fact, it is merely a part of the daily routine of the home to give children strength-building food, and therefore the task of assuring a child his share offers nothing to worry about. Under-feeding means starvation, and, of course, about the only starvation you find in America is that suffered by the extremely poor of the big cities.

But figures are produced to show that malnutrition is as often met in the country and the small town as in the city. One advantage small town mothers possess is the habit of getting together to talk things over, to compare notes and benefit from one another's experience. In short, the mothers' clubs and associations and community centers in small towns are more active than in the large cities. But, on the other hand, the city mother has the benefit of enormous civic examinations, clinics and experiments and of the work of the large welfare organizations and educational institutions.

Most of these organizations, however, are interested in the sick, not in the well; in curing disease more than in preventing it. Consequently the feeding of children has been permitted to continue along the line of least resistance—which means, they eat what is on the table.

In order that the parents of the United States might know just how firm a footing malnutrition has secured in this well-fed and prosperous land of ours, the Chicago public schools were selected as a proving ground for the study of this malady.

Here is an outline of how the classes are conducted, what they accomplish and what might reasonably be expected of them:

The first step is to take the children's ages, their weight and their measurement.

Suppose a girl is 60 inches tall. For her height she should weigh 99 pounds, but instead she only weighs $88\frac{1}{2}$ pounds, which fact puts her $11\frac{1}{2}$ pounds or $10\frac{1}{2}\%$ under weight.

Inasmuch as the records above are those of a girl member of one school nutrition class, let us refer to her chart. We find it to be a checker-board affair, running up and down the left side of which are the numbers representing her weight in pounds, while across the top extended dates, one week apart. From the figure 99, the correct weight for her height, extends a black line, slanting slightly upward. This represents the proper rate of growth for a girl of her age, 14 years and 2 months.

Still farther down, beginning at 88.7 pounds, her actual weight, straggle a series of red dots, joined together by a heavy red line. Each dot represents an actual weighing and records her progress since her entry into the nutrition class. For the first three weeks they stay at 88.7 pounds, then begins a slow climb that suddenly straightens up in a spurt toward the black line above, only to drop back three squares, or three pounds. Then on it goes again week after week, when within two squares of the black line, down the line dips again. Remaining at this level for three weeks they start crawling slowly upwards again until the end of the chart is reached.

This girl's second chart shows plainly that her new diet is accomplishing wonders. That sharper slant on the lower line proves definitely that she is making up her lost growth, while the manner in which the dots are steadily closing the gap between themselves and the line above show that she is gaining weight even faster than she is gaining height. Twice on the second chart her dots dip downward, but recover their stride quickly.

At the bottom of each chart we find notations as to why she lost weight on the several occasions and the average amount of food taken per day. The first setback, which robbed her of three hard-earned pounds, carries the penned notation, "away from home a week—no rest period." The next loss, and the following slowness to pick up is due to "operation on tonsils," and the minor losses that follow are explained by "party—up late two nights," "no cereal" and "fast eating."

After studying this case carefully and extending a third or experimental chart, one of the experts handling these classes estimates that within another six months this girl will have brought her weight up to normal. That is, she will if she follows religiously the nutritional teachings of her class.

This is not an isolated case, for these school nutrition classes are rich with such startling improvements. In fact, they have proved conclusively that the average "backward" child and the average "mal-nourished" respond quickly and surely to proper feeding—and to the common sense habits that must accompany it.

Before correct feeding can accomplish its true work we must remove the handicaps that prevent the body from properly assimilating the foods given it. Briefly, there are five reasons why backward or under-nourished children do not properly utilize the foods put before them. These reasons are: Physical defects, lack of home control, over-fatigue, bad food habits, bad health habits. Physical defects, such as adenoids, infected tonsils, bad teeth and the like can be determined through an examination by the school or family physician—and that physician can supply the remedy. The other reasons lie within control of the parents.

And it is because so much depends upon the parents as to whether or not America's great drive for correct child nutrition is to succeed that we bring these facts to your home. The doctor can remove one great barrier to proper nutrition—the home can remove the other four, and it is the duty of parents to eliminate these others. Intelligent consideration of the fundamentals of nutrition by parents and a desire on their part to co-operate with school and government in the drive to stamp out malnutrition is the only solution to our problem of malnutrition. The menace of the backward, mal-nourished, stunted or under-fed child will vanish only when the "average parent" answers the government's appeal to "give the child a chance."

As you read this little book you will learn that a proper understanding of the principles of nutrition is not synonymous with a post-graduate course in science, and that you need not burn midnight oil in laborious study of an intricate subject in order to feed your children properly.

A sketch of how the school nutrition class is conducted will indicate that even the scientific process required there is really

simple and understandable and that the part required of the parent at home is within easy reach of any mother.

Children entering the class are accurately weighed and measured, and their weight and height and age, together with the date of the examination, entered in the class record book.

A weight chart similar to the one shown on page 38, is then made out for each child. When the child comes to the doctor for examination an indication of whether or not he is in perfect physical condition is shown by the chart. If he is under-weight or under-developed, his record or chart flies the danger signal.

Knowing that something is wrong with the child whose record shows him to be below normal, the doctor makes a thorough examination, digging and delving until he finds the trouble. In this way needed physical examinations are secured that might otherwise never have been made.

Next the child is given a book in which he is to record everything he has eaten, how often he eats, when he goes to bed and other food and health habits, over a period of forty-eight hours.

From the doctor's examination and from a study of the child's record the diet suited to his needs is determined upon and explained to him. He is made to understand just what food qualities he needs and then shown what foods contain them—taught how much of each he needs per meal. He is supplied with a chart showing the exact food value of a definite portion of each kind of food. The same information is given his mother—with the distinct understanding that she will co-operate with the school and see that he does at home what the school recommends.

But in order that parents may not go wrong the child is required to list in his book the exact amount of each kind of food eaten at each meal. In this way any mistake in diet will be discovered when the nutrition worker checks over the book.

In a week or ten days the child is again weighed and measured and the new entry made on his chart. His food habits, health habits and physical condition are also considered.

If the child shows no improvement the mother is again instructed in regard to home control, health habits and the like, and the child permitted to continue keeping the record of its meals. If the next weighing shows no improvement the doctor in charge realizes that the child is not in condition to gain and *that the obstacle to its progress must be found and eliminated.*

It will be noticed that sickness, failure to meet the requirements set by the nutrition director and over-fatigue will cause the cessation of gain and the deflection of the line.

On the accompanying chart, for instance, Mary S. ceased to gain because of a cold and a felon; then through the excitement and reaction following graduation, then because of a sty, next

and 13½
was 57.7 in.
and 47 lbs.

MARY S.

Underweight 20 lbs. 24 lbs. Goal
Average Height for Age 58.6 in.
Average Weight for Height 85.3 lbs.

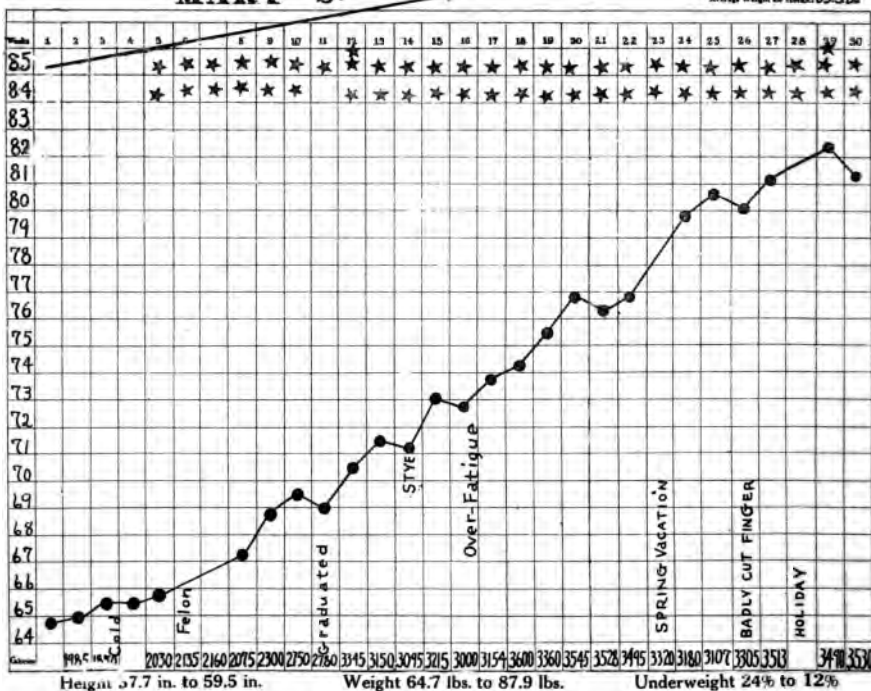


Chart used in Chicago Public School Nutrition Class.

Note how actual weight (dotted line) gains on correct weight (straight line) as caloric measure is increased.

through over-fatigue, then through a physical hurt, and finally by a holiday and the lack of attention to the nutrition plan.

At the bottom of each column is shown the number of calories fed per day that week. At the top of the chart are pasted black and gold stars, to indicate how regularly the child is observing her rest periods and taking her light lunches between regular meals. Whether these lunches and rest periods are required *depends* upon the findings of the examining physician.

Thus the chart shows at a glance all the important facts of the child's progress. Duplicate charts might be kept at home, that the parents can themselves observe the results obtained.

Inasmuch as the success of these nutrition classes depends upon the co-operation given at home, parents of children of school age should understand how to conduct corrective feeding at home.

After such physical defects as the child may possess have been removed, proper health habits planned and an understanding between parent and child that the rules of the class will be observed to the letter, attention can be turned to the food itself.

The age and physical condition of the child determine the amount of food to be fed, this information coming from the physician direct or through the nutrition class itself.

Those in charge of the school nutrition classes prepare menus for the children, giving in them the amount of caloric value required, and in order that this book may be used in connection with this excellent work when it reaches your school, we are including a table of nutritive contents of various foods, showing fuel value in calories. This table, together with those in other chapters, will furnish all information required for a perfect understanding of the nutrition class requirements.

Nutritive contents of various foods, showing fuel value in calories, mineral salt content and nature of food, given in amounts necessary to furnish 100 calories.

Food	Quantity	Ounces	Calories			Acid Forming	Base Forming
			P.	F.	Ch.		
Beef—Roast		1.2	25	75	0	×	.....
Beef—Dried		1.7	75	25	0	×	.....
Beef—Broth		42.0	95	5	0	×	.....
Beef—Juice		15.0	78	22	0	×	.....
Beef—Porterhouse		1.4	56	44	0	×	.....
Beef—Sirloin		1.5	52	48	0	×	.....
Beef—Tenderloin		1.3	36	44	0	×	.....
Beef—Round		1.9	61	39	0	×	.....
Roast Chicken		1.9	73	23	4	×	.....
Roast Lamb		1.8	40	60	0	×	.....
Lamb Chop		1.1	25	75	0	×	.....
Roast Mutton		1.1	34	66	0	×	.....
Boiled Mutton		2.0	75	25	0	×	.....
Roast Pork		1.7	58	42	0	×	.....
Ham		1.2	33	67	0	×	.....
Bacon	1 slice	.5	5	95	0	×	.....
Sausage .....		.7	12	88	0	×	.....
Roast Duck		1.0	20	80	0	×	.....
Roast Turkey		1.1	25	75	0	×	.....
Roast Veal		2.5	85	15	0	×	.....
Corned Beef, canned		1.2	32	68	0	×	.....
Tongue, canned		1.2	27	73	0	×	.....
Salt Pork	1 in. square	.5	4	96	0	×	.....

Food	Quantity	Ounces	Calories			Acid Forming	Base Forming
			P.	F.	Ch.		
FISH							
Salmon	.	1.7	40	49	11	×	.....
Salmon, canned		1.9	54	40	6	×	.....
Halibut		3.0	71	29	0	×	.....
Shad		2.8	60	40	0	×	.....
Haddock		3.3	83	3	14	×	.....
Cod		3.6	89	4	7	×	.....
Mackerel, fresh		2.8	60	38	2	×	.....
Mackerel, salt		1.4	65	35	0	×	.....
Bass		3.2	85	15	0	×	.....
Clams	12 to 15	4.7	56	8	36	×	.....
Oysters	12	7.	49	22	29	×	.....
Lobster	3 h. tbsp.	4.1	78	20	2	×	.....
Scallops	2 h. tbsp.	2.5	76	10	14	×	.....

VEGETABLES

Asparagus, canned ...	15 stlks	19.	33	5	62	.....	×
Asparagus, cooked ...	7 h. tbsp.	7.	18	63	19	.....	×
Beans, baked	1 tbsp.	2.7	21	18	61	.....	×
Lima Beans	2 tbsp.	4.4	21	4	75	.....	×
String Beans	10 tbsp.	16.7	15	48	37	.....	×
Beets	6 h. tbsp.	8.7	2	23	75	.....	×
Cabbage	60 h. tbsp.	11.	20	8	72	.....	×
Carrots	4 h. tbsp.	5.8	10	34	56	.....	×
Cauliflower	24 h. tbsp.	11.	23	15	62	.....	×
Celery	1 bunch	19.	24	5	71	.....	×
Corn, canned	2 h. tbsp.	3.5	13	10	77	.....	×
Corn, green	1 ear	3.5	13	10	77	.....	×
Cucumber	2 large	20.	18	10	72	.....	×
Lettuce	4 heads	18.	25	14	61	.....	×
Mushrooms	4 large	7.6	31	8	61	.....	×
Onions	4 h. tbsp.	8.4	12	40	48	.....	×
Parsnips	5 h. tbsp.	5.8	10	34	56	.....	×
Peas, green	3 tbsp.	3.	23	2	75	.....	×
Peas, canned	2½ tbsp.	6.3	25	3	72	.....	×
Potatoes, sweet	½ average	1.	6	9	85	×	.....
Potatoes, white	1 average	3.6	11	1	88	×	.....
Rhubarb, stewed	1½ h. tbsp.	2.3	10	27	63	.....	×
Spinach	4 h. tbsp.	6.1	15	66	19	.....	×
Squash	4 h. tbsp.	7.4	12	10	78	.....	×
Succotash	3 h. tbsp.	3.5	15	9	76	.....	×
Tomatoes, canned	12 h. tbsp.	15.	15	16	69	.....	×
Tomatoes, fresh	4 average	15.2	21	7	72	.....	×
Turnips	6 h. tbsp.	8.7	13	4	83	.....	×

CEREALS

Corn Flakes	10 h. tbsp.	.9	11	1	88	.....	.....
Cream of Wheat	4 h. tbsp.	6.	12	3	85	.....	.....
Farina	4 h. tbsp.	6.	12	4	84	.....	.....
Grape Nuts	2 h. tbsp.	1.2	13	2	85	.....	.....
Hominy	3 h. tbsp.	4.2	11	2	87	.....	×
Indian Meal	3 h. tbsp.	4.2	9	12	79	.....	×
Macaroni, boiled	4 tbsp.	4.	14	15	71	×	.....
Oatmeal	4 h. tbsp.	5.6	18	7	75	.....	×
Puffed Rice	10 h. tbsp.	.9	7	1	92	×	.....
Rice, boiled	4 tbsp.	3.1	10	1	89	×	.....
Shredded Wheat	1	.9	13	5	82	.....	×

Food	Quantity	Ounces	Calories			Acid	Base
			P.	F.	Ch.	Forming	Forming
FRUITS (Fresh)							
Apple	1 large	7.3	3	7	90	.....	×
Banana	1 large	3.5	5	5	90	.....	×
Blackberries	5 h. tbsp.	5.9	9	16	75	.....	×
Cantaloupe	½	8.6	6	0	94	.....	×
Grape Fruit	½	7.5	3	12	85	.....	×
Grapes	1 bunch	4.8	5	15	80	.....	×
Lemons	1 large	7.6	9	14	77	.....	×
Orange	1 large	9.4	6	3	91	.....	×
Peach	3 average	10.	7	2	91	.....	×
Pear	1 large	5.4	4	7	89	.....	×
Pineapple	2 slices	8.	4	6	90	.....	×
Raspberries	6 h. tbsp.	6.3	8	0	92	.....	×
Strawberries	9 h. tbsp.	9.	10	15	75	.....	×
Watermelon		27.	88	9	9	.....	×
FRUITS (Dried)—Edible Portion							
Dates	3 large	1.	2	7	91	.....	×
Figs	1 large	1.1	5	0	95	.....	×
Prunes	3 large	1.1	3	0	97	.....	×
Raisins	10 large	1.	3	9	88	.....	×
BREAD							
All Kinds	1 full slice	1.3	13	6	81	×	.....
Corn	3x2x¾	1.3	12	16	72	×	.....
Biscuit	1	1.	10	32	68	×	.....
Roll, Vienna	1	1.2	12	7	81	×	.....
Zwiebach	3 pieces	.8	9	21	70	×	.....
Pilot	¾ cracker	.9	11	12	77	×	.....
NUTS							
Almonds	8	.5	13	77	10	×	.....
Brazil	3	.5	10	86	4	×	.....
Chestnuts	20	1.4	10	20	70	×	.....
Filberts	10	.5	9	84	7	×	.....
Peanuts	13 double	.6	20	63	17	×	.....
Pecans	8	.5	6	87	7	×	.....
Walnuts	6	.5	10	83	7	×	.....
SOUPS							
Cream—							
Asparagus		3.9	12	70	18	.....	×
Celery		3.8	10	73	17	.....	×
Corn		3.2	11	58	31	.....	×
Pea		2.7	16	48	36	.....	×
Tomato		3.5	10	70	20	.....	×
Clam Chowder		3.8	20	38	42	.....	×
Fish Chowder		3.9	34	35	31	.....	×
Thick—							
Bean		5.4	20	20	60	.....	×
Chicken		6.	72	12	16	×	.....
Lamb		6.	..	..	..	×	.....
Meat Stew		4.3	23	49	28	×	.....
Oyster Stew		5.	23	57	16	.....	×
Clear—							
Bouillon		32.	84	8	8	.....	Trace
Consomme		29.	85	0	15	.....	Trace
Vegetable		25.	85	0	15	.....	Trace

Food	Quantity	Ounces	Calories			Acid Forming	Base Forming
			P.	F.	Ch.		
SWEETS							
Cocoa	4 h. ts.	.7	17	53	30	.....	×
Chocolate	½ sq.	.56	8	72	20	.....	×
Fruit, Sauces	2 tbsp.	2.	1	3	96	.....	×
Jellies, all	1 tbsp.	1.	1	0	99	×	.....
Marmalade	1 tbsp.	1.	1	2	97	×	.....
Honey	1 tbsp.	1.	1	0	99	×	.....
Sugar, Granulated....	4 teasp.	.9	0	0	100	×	.....
Sugar, Powdered	4 h. teasp.	.9	0	0	100	×	.....
Sugar, Cube	4 lumps	.9	0	0	100	×	.....
Sugar, Domino	6 small or 3 large	.9	0	0	100	×	.....
Sugar, Maple	4 teasp.	1.	1	0	99	×	.....
Maple Syrup	1 tbsp.	1.2	0	0	100	×	.....
DAIRY PRODUCTS							
Butter	1 pat	.4	1	99	0	.....	×
Cheese—							
American	1 cu. in.	.9	25	73	2	×	.....
Cottage	2 h. tbsp.	.1	76	8	16	.....	×
Cream	1 cu. in.	.9	25	73	2	×	.....
Neufchatel	1 cu. in.	.9	22	76	2	×	.....
Pineapple	1 cu. in.	.9	25	73	2	×	.....
Roquefort	1 cu. in.	.9	25	73	2	×	.....
Swiss	1 cu. in.	.9	25	74	1	×	.....
DESSERTS							
Cakes—							
Sponge	2x2x1	.9	7	25	68	×	.....
Chocolate Layer ...	2x1½x1	1.	7	22	71	×	.....
Frosted	2x1½x1	1.	6	22	72	×	.....
Gingerbread	2x2x1	1.	6	23	71	×	.....
Lady Fingers	2	.9	10	12	78	×	.....
Macaroons	2	.8	6	33	61	×	.....
Cookies	2	.8	7	22	71	×	.....
Chocolate Eclair	½ small	.8	4	33	63	×	.....
Doughnuts	¾	.8	6	45	40	×	.....
Pies—							
Custard	1⅙¼	1.9	9	32	59	.....	×
Lemon	1⅙¼	1.4	6	36	58	.....	×
Squash	1⅙¼	1.9	10	42	48	.....	×
Apple	1⅙¼	1.3	5	32	63	.....	×
Mince	1⅙¼	1.2	8	38	54	×	.....
Puddings—							
Bread	1 h. tbsp.	1.6	10	20	70	×	.....
Baked Custard.....	1 h. tbsp.	2.6	17	37	46	.....	×
Rice Custard.....	1 h. tbsp.	2.7	8	13	79	.....	Trace
Apple Tapioca	2 h. tbsp.	3.	1	1	98	.....	Trace
Indian	1 l. tbsp.	2.	12	25	63	.....	×
Ice Cream	1 h. tbsp.	2.	11	50	39	.....	×

EXPLANATION OF ABBREVIATIONS

tbsp.—tablespoonful. *teasp.*—teaspoonful.

All measures level unless prefixed by h. meaning heaping.

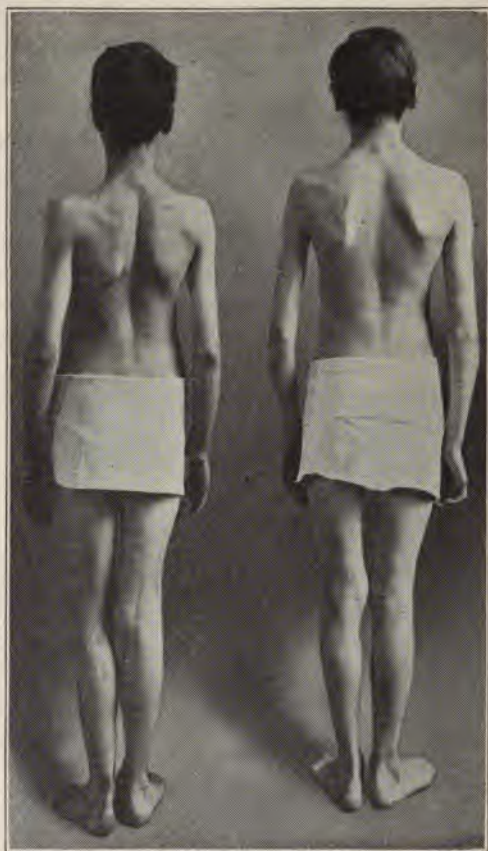
cu. in.—cubic inch.

Feeding the Child

A FACT very few mothers realize is that the nutritional needs of children are not the same as the nutritional needs of adults. In other words, a child stomach cannot convert into nourishment all the foods that are valuable to the "grown-up."

The average mother has become an expert in first-aid for her children and in meeting their educational and physical needs of every sort—except those pertaining to food. She knows less about food than she does about anything else vital to the child. In this connection we refer to children between the ages of three and fifteen years, and it is during this period that the entire foundation of the child's future health is built. For that reason early childhood might be called "The Danger Age," for improper feeding at that time not only mal-nourishes but so disastrously affects the digestive organs of the little one that its future is almost "assured" against health.

She has learned, by ceaseless, loving diligence, just what should be fed baby, how much should be given, how it should be prepared and how often it should be fed. Her long hours in the kitchen have taught her what father and the other adults of the family require. But the food requirements of the growing boy or girl of school age remain more or less of a mystery to her,



Two mal-nourished boys.

with only a faint hint or dropped suggestion to guide her. Plenty of milk, cereals, not too much pastry, not too rich food and not too much candy—that is about the extent of the information on child feeding for the children between four and fourteen that she receives.

Having no definite knowledge of the exact foods required by the young child the average mother experiments a little and then seeks, or has thrust upon her, the advice of more experienced mothers and of relatives and friends. And as most of her advisers have experienced the same doubts and uncertainties and were as ignorant of actual facts as is she herself, she makes no startling discoveries and finds their advice easy to

follow. Her question, "Should Johnny Eat That?" brings the universal answer:

"Oh, just feed him plenty of good, wholesome food, but don't let him eat too much candy. He should have lots of milk—and fruit is good for him, too. Don't worry, he will grow fast enough."

So soon mother stops worrying, for to her it seems that little Johnny, or Nellie or Mary, is doing quite nicely on the food that is served the rest of the family. And so, in the average American family today, little Johnny is served from the grown-ups' menu—except that he receives a little cereal at breakfast, milk instead of tea or coffee, and a smaller helping of



Same boys after 4 months of proper feeding.

rich salads or cut of pie or pastry.

In many, many cases, however, mother is mistaken about little Johnny's progress. Confident of his growing strength she has neglected to apply the measuring tape and the weight scale, she has neglected to have him examined for signs of malnutrition. She does not realize that his little "failings," "weaknesses," spells of "sick" stomach, nervousness, grogginess, backwardness in school and even irritableness are all due to the "good wholesome foods" she is feeding him.

For what is good for grown-ups is not always good for children, and the same menus and recipes cannot be used for both. Children of various ages possess different nutritional requirements and an adult's diet cannot fill their needs.

Children must have their own foods, prepared and cooked especially for them. Children require definite kinds of foods, served at definite periods in definite amounts. How much food a child should receive depends not only upon his age and size, but upon his environment, activities and physical condition as well.

To instruct mothers how to determine these facts and how to select and prepare the foods to be fed their growing children is the purpose of this book.

The first thing to determine is how much your child should eat. Remembering that the calorie is the unit used to measure food value we find that the requirements for children are, for every twenty-four hours:

CHILDREN

Years of Age	Calories
1 to 2, require.....	900 to 1200
2 to 5, require.....	1200 to 1500
6 to 9, require.....	1400 to 2000
10 to 13, require.....	1800 to 2200

GIRLS

14 to 17.....	2200 to 2600
---------------	--------------

BOYS

14 to 17.....	2500 to 3000
---------------	--------------

There is also a scale that will permit you to determine the caloric requirements of your child according to its weight. This table shows how many calories of food value a child should have every twenty-four hours for each pound of its weight. It is as follows:

Age	Calories, per lb., Approx.
First 3 months.....	48
3 to 6 months.....	42
6 to 12 months.....	38
1 to 2 years.....	35
2 to 4 years.....	33
4 to 8 years.....	33
8 to 12 years.....	28
12 to 16 years.....	23
Adults	18

The very fact that small children require almost twice as much nourishment per body pound as do adults (except those engaged in heavy labor) ought to indicate to mothers that the feeding of children offers problems not met in adults.

Childhood is the time of growth—and growth requires food exceptionally rich in tissue and bone building qualities. Man requires food to supply him energy, fuel, and to keep his blood rich and his tissues healthy. The child has the same requirements, plus the need for extra body, blood, bone and brain building elements.

Consequently the practice of feeding children the same as adults, only on a smaller scale, is absolutely wrong and guarantees malnutrition. What is good for man is not always good for his young and what is sufficient for the adult is not always sufficient for the child. Remember that and prepare children's food, not adult's food, for your young ones.

Without going into scientific details I wish to point out one fact: children require more protein (the body building element of food) and less fats and carbohydrates (energy creating qualities, or fuel) than do adults. This because, especially in infancy, they are more engaged in growing than they are in doing.

Consider the young chick, for example. While in the egg he must turn the food about him into flesh, he must grow. He has little room for activity—hence the composition of the egg: fourteen per cent protein, ten per cent fat, no carbohydrates, one per cent mineral salts and approximately seventy-five per cent water and refuse (shell).

The instant the chick is hatched it needs a change of diet—more energy-producing elements—fuel. Hence cornmeal or some other food high in carbohydrates is fed it. As the chick becomes more active, it requires more energy producing food.

Thus it is with the child also. The needs of the infant is for food high in body building values and as it grows older and

becomes more active it requires food supplying more "fuel," more energy making qualities. So the ideal ration for the child of four is by no means ideal for the infant, while the boy of eight should have a different combination of food values than that fed the boy of four. The boy of four requires more calories of nutriment per pound of weight than does the boy of ten or twelve—yet the older boy should have food producing more "fuel." And this brings attention to the fact that although "calories" are actually units of heat measurement (telling how much body fuel a food furnishes) they are used to measure foods of various food combinations. One ounce of one food may contain 200 calories and an ounce of another food contain but half that quantity—yet the second food be richer in food value. This because it might be richer in protein and mineral salts. One ounce of pure olive oil contains approximately 250 calories whereas an ounce of boiled whole wheat contains only 105 calories, but the olive oil contains nothing but pure fat and would be disastrous as the backbone of a diet, whereas the wheat contains thirteen per cent protein, two per cent fat and approximately seventy-five per cent carbohydrates, with enough mineral salts to safeguard the child's health.

So we should remember that while we measure by calories we must use such foods as assure a balanced ration, or the right proportion of all the nutritive qualities. The following menus, prepared to give the correct amount of food for the different ages shown, will indicate how this can be done.

In connection with these menus, as with all food, observe the following rules of child feeding:

1. Feed only fresh, clean, substantial food.
2. Feed, regularly—at definite set intervals. But make these intervals often. The child requires nourishment oftener than does the adult—for its metabolism—the process of turning food into energy and blood, bone and flesh—is unlike the adult's. Nature does not store concentrated nourishment in the child's body in the shape of fat to anything like the extent it does in the body of the grown-up. The child uses up the nourishment received in food almost as fast as the body receives it, storing very little. Therefore, the child should be fed often—if hungry. Do not compel the child to observe the feeding hours of the *adult*. The child should have a light mid-morning and mid-afternoon lunch—if hungry. In other words, do not deny

child's appetite good wholesome food and never force a youngster to eat against his will.

When lunches are given between regular meals they should consist of bread and butter and milk—never candy, cakes or other sweets.

3. See that the child has plenty of water to drink at all times. Water drinking is a habit—see that your child forms it.

4. Never force a child to eat what is distasteful to him—the appetite is usually a barometer for the digestion. This refers to things that are absolutely distasteful to him—not to foods he at times tires of in order to get the daintier, if less wholesome, dishes that he prefers.

5. Keep the child's meal times pleasant. Save criticism, punishment and regulatory methods until another time. Happiness is essential to good digestion.

Good, fresh whole milk should form a part of every meal. Cocoa is a desirable beverage for children over four years of age. Coffee and tea, no matter how weak, should never be given.

(Figures in parentheses indicate how much food is required to produce 100 calories of nutritive value. Stars indicate dishes covered by following recipes.)

BREAKFAST

Boiled rice	(4.5 oz.)
With milk	(6 oz.)
And sugar	(3 oz.)
Bread, whole wheat.....	(1 thick slice)
Butter	(½ oz.)
Oatmeal	(1 oz.)
With milk	(6 oz.)
With sugar	(3 ts.)
Bread, whole wheat.....	(1 slice)
Milk	(6 oz.)
Butter	(½ oz.)
Boiled whole wheat.....	(1 oz.)
With milk	(6 oz.)
And sugar	(3 ts.)
Bread, Graham	(1½ slices)
Cocoa	(½ cup)
Butter	(½ oz.)

Service for breakfast should be about as follows for child of eight to fourteen: two ounces cooked rice with raisins with four ounces milk and two teaspoons sugar. Slice of bread, glass of whole milk (eight ounces), one-half ounce butter. Total of 675 calories.

The breakfast may well be given variety by the addition of *fruits, which are especially valuable for the mineral salts they contain. Many fruits, such as figs, dates and raisins, are richer*

in sugar content, and the others are prepared with sugar. Keeping this in mind the sugar ration for the day should be lowered.

Ideal fruits for children are: oranges (juice only for the youngest children), apple sauce, baked apples (pulp only for the little children); fresh apples (scraped for the little ones); baked pears (pulp and juice only for the smallest children); stewed prunes (pulp and juice only for the small children); grapefruit (juice only for the little tots), and boiled raisins and figs for the older children.

DINNER

1—Meat soup	(10 oz.)
Egg on toast	
Egg	(2 oz.)
Toast	(1¼ oz.)
String beans	(9 oz.)
*Rice pudding	(1 oz.)
2—Baked potato	(3 oz.)
With butter	(½ oz.)
Green peas	(4 oz.)
Stewed prunes	(1½ oz.)
Glass of milk	(6 oz.)
3—Baked halibut	(3 oz.)
Or salmon	(2 oz.)
Boiled potatoes	(4 oz.)
Bread, Graham	(1½ slices)
Butter	(½ oz.)
Milk	(6 oz.)
(Serve in portions that will give desired caloric value.)	

SUPPER

1—Baked potatoes	(3 oz.)
With butter	(½ oz.)
Asparagus	(6 oz.)
*Junket, egg	(2.5 oz.)
2—*Celery soup	(4 oz.)
*Twice baked bread	(1½ slices)
Butter	(½ oz.)
Glass milk	(6 oz.)
3—Stewed oysters	(6 oz.)
Bread	(1½ slices)
And butter	(½ oz.)
Milk	(6 oz.)

(Whole milk, from which the cream has not been removed, is to be used.)

When the child reaches its third year, its digestive organs are more developed and are better able to digest stronger foods, and at this time the careful mother can add to the diet easily digested vegetables such as baked potatoes with milk or butter, young peas, young green beans, squash, asparagus tips and various greens. Milk, butter and eggs, together with such cereals as oatmeal, ground whole wheat and a small amount of thoroughly cooked rice or barley, should form the backbone of the diet for a child of this age.

A little white meat of chicken or other fowl and a very small amount of finely cut broiled beefsteak or mutton chop, or finely cut roast beef, properly salted, may be given twice or three times a week—but not more often.

All kinds of vegetable and meat soups, from which the fat has been carefully strained, are permissible, as are also milk soups and vegetable pourees, and rice or barley may be added to these soups.

A little fish from which the bone has been very carefully removed is not objectionable for an occasional variety of diet.

The dessert may be a custard, a junket, a pudding made of rice, or tapioca or a fruit gelatine.

It is understood, of course, that the child of three should have fruits as indicated heretofore.

A child of five may have all these things, plus a greater variety of vegetables, including onions, turnips, cauliflower, stewed tomatoes, celery, cabbage, and even young corn—though this last in a very limited quantity.

A child of five may have meat four or five times a week, and may extend its variety to practically all broiled, stewed or roasted meat—except pork. Broiled fish should substitute for this meat once or twice a week.

A child of this age may have as much boiled rice (preferably natural brown rice) and other cereals as it may wish.

At this age children may also have a more varied selection of desserts, including simple sponge and gingerbread cakes, corn starch pudding, ice creams, and ices.

A good menu for this age would consist of

BREAKFAST:

- 1—Graham muffin with butter, milk, corn meal mush (whole grains), an orange.
- 2—Corn bread (from corn meal that has been degerminized), porridge made from whole wheat, poached egg, glass of milk, an apple.

The corn meal mush and whole wheat porridge suggested in these menus should be accompanied by whole milk or cream.

The whole wheat can be ground in special family wheat mills or an ordinary coffee grinder and should be cooked for from three to four hours.

DINNER:

- A cup of meat broth accompanied with a little rice, barley or oatmeal, *broiled fish*, baked potato, whole wheat bread and butter, *orange tapioca and cocoa*.
Cream of celery soup, broiled lamb chop with green peas, boiled rice, *apple sauce and milk*.

The desirability of giving children a light supper cannot be too strongly emphasized.

The child's stomach should not be heavily loaded at night, for a child that has eaten lightly before going to bed invariably sleeps better than a child who has been given a large meal.

SUPPER:

- 1—Toasted whole wheat bread in a bowl of whole milk.
- 2—Stewed prunes, graham crackers, and glass of milk.

A child of ten is unusually active and its digestive apparatus can take care of almost any natural food, but a child of ten or of twelve or fifteen should not be fed foods soaked in fats or foods over-rich in sweets, or foods highly spiced or seasoned. Fried foods are undesirable, broiled foods acceptable.

The thing to remember is that the child needs wholesome, coarse, plain food—not rich concoctions or highly seasoned delicacies. Also, a child of active age usually requires an afternoon lunch and often a glass of milk and a slice of bread in the morning will prove helpful.

Below are sample daily diets for child ten years old

BREAKFAST:

	Calories
Orange	One-half 50
Cornmeal	4 tbtsp. 65
Sugar	2 tbtsp. 50
Top milk	4 tbtsp. 100
Bread	2 slices 150
Butter	2 level tsp. 70
Plum jam	1 tbtsp. 100
Milk	½ pint 160
	<hr/> 745

DINNER:

Fish chowder	8 oz. 240
Spinach	2 tbtsp. 50
Bread	2 slices 150
Butter	2 level tsp. 70
Cup custard	¼ cup 100
	<hr/> 610

AFTERNOON LUNCH—3:30 o'clock:

Milk	½ pint 160
Oatmeal cooky	1 large 100
	<hr/> 260

SUPPER:

Baked potato	1 large 125
Butter	1 tsp. 35
Cottage cheese	1 tbtsp. 50
Whole wheat bread	1 slice 75
Butter	1 tsp. 35
Stewed peaches	One-half 35
Cocoa	1 cup 175
	<hr/> 530

Total calories for one day.....2145

Those Precious Salts

IF THE human body's nutritive requirements were merely a sufficient supply of fats and carbohydrates for the furnishing of heat and energy and enough protein for the building of tissue and muscle, there would be no need of writing this. But such is not the case and the division of food into its three principal nutritive elements: fat, carbohydrate and protein, does not afford a complete schedule of nourishment.



Vegetables supply mineral salts and vitamins.

This because the total of these qualities give us only the colloids of our foods, and to properly maintain life the body must draw from the foods supplied it not only colloids, but salts, enzymes, ferments and vitamins as well.

The fact that ninety-five per cent of the nutritive bulk of our foods are colloids, or fats, carbohydrates and proteids, does not

make any the less vital our need for these other qualities. Without them the body starves and ceases to function properly.

Fortunately the eating of foods possessed of salts and vitamins assures a supply of enzymes and ferments. The reason for this is that the food containing salts and vitamins as well as colloids is a natural and complete food.

We know that the mineral salts supply the bone building elements of our bodies and furnish the chemicals necessary to the formation of the various fluids and digestive juices of the body and that the vitamins are absolutely necessary to growth and for the purpose of keeping the tissues young and strong and natural foods supply all the nutritive elements necessary to our health and strength.

Clearly then we must assure ourselves more than simply a sufficient supply of fats, carbohydrates and proteins—we must assure ourselves of mineral salts and vitamins as well.

Therefore the calorie cannot measure every vital and necessary nutritive element of our foods. It can measure the colloids: the fats, carbohydrates and proteins, only. Hence for proper nutrition we must demand of our foods other qualities than those indicated by caloric content.

But this does not discredit the calorie. Not in the least. **This** because the correct caloric proportion of **natural** foods will supply the needed amount of salts and vitamins. The calorie is merely a unit of measurement, the same as is an ounce, or a gram, or an inch or a teaspoonful. Its limitations, therefore, are the limitations of the measure—it can guarantee quantity but not quality. And for nutrition the quality needed is **natural** food.

Natural foods are foods that have not been robbed of the vital qualities supplied them by nature.

Undiluted, whole milk is a natural food; white bread is not. Fresh, green vegetables are natural foods, polished rice and pearly barley are not. In short, foods that we prepare and eat as they leave nature's laboratory are natural foods, while those that we "refine," "degerminate," "demineralize," or otherwise "specially process," are not.

If you want your child properly nourished, happy and strong, your first precaution should be to assure him natural foods. *This is not difficult*, and it is extremely economical. For example, ordinary cracked whole wheat can be purchased for less

than any cereal breakfast food on the market and supplies an unsurpassed dish for child or adult. Cracked corn, hominy, plain barley, plain oatmeal and natural brown rice (rice from which the bran has not been removed) are all excellent, natural foods.

Why? Simply because processing generally removes a vital element from the food. And usually the elements removed are mineral salts and the vitamins that accompany them.

Consider the wheat kernel. As it comes from the granary it is a complete, natural and highly nourishing food. In its natural state it contains not only proteins, fats and carbohydrates that can be measured by the calorie, but also the growth promoting vitamin and the mineral salts that are so necessary to the proper functioning of the body, and to the building of bone and the enriching of the blood.

When the whole wheat is ground into whole wheat flour all these nutritive elements are retained, but in the process of milling or refining it into white flour we discard its most vital qualities.

The first bolting or sifting given the ground wheat removes the coarse bran—and the rich, oily germ of the wheat. This first discard contains the much needed mineral salts and vitamins—as well as proteins and fats. Chemical analysis shows this “waste” material to be rich in silicon, sulphur, nitrogen, iron, iodine, potassium, manganese, phosphorous, nucleo-proteins and phosphates.

Now it happens that nature put these elements into the wheat kernel because they were necessary to combine with the other qualities of the grain in order to produce a balanced and really nourishing food. When we remove them we destroy this balance.

But we do not stop here. We sift the flour again—discarding the middlings this time, which include smaller particles of bran and germ. And with these the calcium of the wheat is rejected.

Thus we see the processing or “refining” has robbed the wheat of the following chemicals, every one of which are absolutely necessary to the human body: silicon, sulphur, nitrogen, iron, iodine, potassium, manganese, phosphorous and calcium.

But what harm has actually been done? Why are these chemical salts so vital to our welfare and so necessary to balance *the nutritive value of wheat?*

Mineral salts are alkaline or base forming, while the other elements of wheat, which have been retained in the white flour, produce acid end products when they are burned within the body. An excess of these acids is injurious to the body, eventually attacking and destroying its tissues and drawing the salts from its bones. The alkaline salts neutralize these acids and permit them to be utilized or passed from the body.

Fortunately, we are able to supply these alkaline salts, and the vitamins, too, by combining in the ration containing the white flour foods known to be rich in these qualities: fresh vegetables, fresh fruits, milk, bran and dairy products.

A good practice is to combine the use of white bread with bran muffins, cakes, etc. However, whole wheat bread is the natural and right solution of this problem for children.

A diet in which white bread predominated would soon cause this excess acid condition of the body and bring about the dreaded acidosis and its brethren, beri-beri, scurvy, pellagra, trench edema, neuralgic troubles, rheumatism and other results of blood that has been dealkalized by the eating of acid-forming foods. When the blood is robbed of its salts, alkali metals and calcium, scurvy and like disorders follow.

Has such a thing ever happened? The great German raider, Kronprinz Wilhelm, sought refuge in an American harbor, not because it had been driven from the high seas by Allied fleets, but because more than a hundred members of her crew were stricken with a disease pronounced beri-beri by local authorities but which was later accepted as acidosis. For more than eight months those aboard the raider had been living on the fat of the land, on the finest fresh meats taken from the refrigerators of the ships they captured, on limitless amounts of canned foods and sugar and smoked meats and coffee and tea and jams and jellies—and on as much pure white flour as they could consume. Besides these they had many kinds of refined foods and fancy biscuits. Also they had plenty of potatoes and oleomargarine.

But their food was sadly lacking of mineral salts, and of vitamins. They sank one ship loaded with wheat, grain that contained the vital qualities their refined and acid forming foods lacked—alkaline salts. They rejected the whole wheat and ate the white flour, they peeled the precious qualities from their potatoes and scraped them from what other vegetables they possessed.

And so the calcium and potassium salts were drawn from their blood and bones and acids ran amuck throughout their systems.

Fresh vegetables, cooked with their skins on and the juices or waters saved, fresh fruits and whole grains were the foods they needed. And most vitally did they need the vitamins and salts of the vegetables and the base forming juices of the fruits.

Plenty of fresh fruit would have supplied the needed qualities, but it was not to be had. And it is unfortunately true that many of us unknowingly depend upon the pleasing fruit salad for alkaline salts that we discard from our other foods. But it is also unfortunate that we do not always secure enough of these substitute salts. There are thousands—millions, of American children today suffering from malnutrition, from rickets and from scorbutic diseases whose condition is the result of our practice of robbing our foods of their most essential qualities. Acidosis is not always as evident as in the case of the three hundred-odd men of the German raider, who were disabled by it, or as in the case of the laborers of the Madeira-Mamore railroad, constructed between Bolivia and Brazil—over two thousand of whom died of acidosis, due largely to an excessive diet of white bread and crackers to the exclusion of foods containing the correct amount of salts and vitamins.

Acidosis generally does not make its presence so clearly evident—if it did, American parents would stamp it out. Instead it merely undermines the child's health, weakens its powers of resistance, slows it up mentally and physically and causes serious malnutrition.

Wheat is by no means the only food that is robbed of its vital qualities. Rice suffers like treatment, its bran, which means its mineral salts and vitamins, is polished off, leaving the white heart, a food that is both deficient and unbalanced. When barley is pearled or corn is degerminated the results are the same.

It is impossible to lay too great emphasis on the tragedy of the robbed food, the tragedy of foods that starve. And it must be remembered that the devitalizing of food is not always a commercial proposition. Unfortunately the average housewife performs this operation in her own kitchen every day.

She does so when she throws away the water in which fresh vegetables have been cooked, for the mineral salts are in those *waters*; *she discards* vital nutritive qualities when she cuts thick

peel from vegetables and fruits and she devitalizes the menu when she fails to furnish meals of balanced nutritive qualities.

For the good of your children, and yourself, remember always that nature made rough foods to be eaten, that roughage is as necessary to the human body as it is to that of the steer or the hog or the chicken—and no farmer would dream of feeding his animals or poultry flocks on devitalized and refined foods.

And that is another reason why we should not rob wheat, or rice, or barley or any other grain of its bran or roughage—for this roughage performs a very important function within our bodies, cleansing and stimulating as it goes. Its very bulk serves to flush our stomachs and intestines and to absorb the acids and bacteria that attack the linings of these organs—it acts also as a lubricant within our systems.

These needs are vital, but we will not have to worry about them if we remember a single fact, that natural, undoctored foods will perform all these services for us, and perform them naturally and automatically.

We need only to eat the correct caloric amount of natural foods, accompanying them always with a little fruit and vegetables for their vitamins, their mineral salts and their roughage. The very fact that these foods are extremely low in caloric value assures us against throwing the ration off balance by including them.

Serve whole wheat bread, bran muffins, plenty of fresh vegetables and fruit, plenty of milk, and remember to always use the water in which foods are cooked, and you need not worry regarding the amount of mineral salts, vitamins and roughage your family secures.

And when you serve acid-forming foods, such as the following: white bread, red meat, cheese, whites of eggs, fat of any kind, crackers, pastry, pudding, mashed potatoes, sugar, salt meat, fish, polished rice, pearled barley, degerminated corn, cornstarch and greasy gravies, be sure to include in the same meal some of the following foods rich in alkaline salts: onions, asparagus, lettuce, spinach, cabbage, carrots, parsnips, brussels sprouts, celery, string beans, squash, fruits and berries, bran muffins or cakes of wheat, or rice or barley bran, water in which vegetables have been cooked, milk.

There is still another thing we must do in order to put into successful use the caloric system of measured feeding, or any

system of feeding known. We must remember that fresh air and good water are as truly foods as are fats or proteins or carbohydrates.

Nothing can substitute for fresh air and pure water. The body can exist for days and weeks without ingesting an ounce of protein or fat or carbohydrate, without consuming a pound of any of that type of food. But it cannot exist a single week without water nor a single hour without air. Air and water clean the poisons from the body, bringing into it the most nourishing of all elements—oxygen. Without it the body could not exist for half an hour.

Children should be kept out of doors for hours every day and they should live always in an atmosphere of fresh air. Without plenty of fresh air to free the body of poisons and gases all other food would be lost to us. We consume food only three or four times a day; we take water into our systems almost twice this often, and several times a minute, every hour of the day and night, we draw upon the limitless supply of air.

Pure fresh air is even more essential, if such a thing could be possible, at night than by day. No child, or adult, can be properly nourished that breathes foul air. Foul air will malnourish, cut down our resistance and endurance and cause weakness and disease as surely as will insufficient or improper food.

How important and vital water is to us is indicated by the fact that over two-thirds of the body weight is water, which is distributed throughout the body in every tissue and fluid, entering into and forming an essential part of every active cell.

The calorie cannot measure air nor water, nor can it measure vitamins or mineral salts, but it can measure foods as a whole and guide the parent as to the amount to be consumed and in the balancing of rations. If the required caloric amounts of natural foods are given, and if fresh vegetables or fruits are included at least once a day and preferably at every meal, the shadow of malnutrition can be banished from the home.

The School Luncheon

THIS little booklet would fall short of its purpose if it, like so many thousand American parents, should overlook the school luncheon in its endeavor to help establish correct food standards and methods for children. For what goes into the school lunch is vitally important—whether this lunch be served warm, on the table of the school, or whether it is brought from the home in a basket or pail.



A School Lunchroom.

Let us, then, look into the lunch pail that your child carries—really look into it—not just glance to see if the sandwiches or doughnuts are neatly wrapped or to determine if the contents are likely to be scrambled en route to school.

A study of the school lunch may give us more than a hint as to the reason for America's six million under-nourished school children.

For we know now that the harmful and the inadequate school lunch is largely responsible for the mal-nourished condition of millions of school children in this country.

You would hardly think that of the innocent little school lunch, would you? Of that simple little sandwich and slice of pie *you slip into the shoe box or wrap in a scrap of paper?* It

is so small a thing—simple and easy to prepare. And being simple it does not involve the fuss and work of a hot dinner.

There you have the cause of the trouble—it is too easy to prepare. It is tossed together at the last minute—without a thought of its real responsibilities. And thus it is that the average school lunch breaks every law of correct feeding.

This for three reasons: proper food is not selected nor the correct amount supplied; the food that does find its way into the child's school luncheon is generally not scientifically prepared; and, finally, it is put before the child in a state neither attractive nor nourishing.

Investigations conducted by the United States government, by state health organizations and by others interested in the welfare of school children have disclosed a very interesting fact: that less than fifteen per cent of the lunches brought to school by children were dietetically correct; that less than forty per cent could be classed as nourishing, and that more than sixty per cent were either practically valueless or actually harmful.

In other words, unless you are giving special attention to what goes into your child's lunch package the chances are three to one that his mid-day meal is a handicap instead of a help to him.

Certainly we all know now that unless properly nourished a child cannot meet the requirements of the school day, that his health is endangered and he soon becomes classed as "backward" and physically weak.

The large cities have discovered that to afford their school children a fair chance they must assure them of proper nutrition—with the result that school nutrition classes are becoming



Veal loaf for school lunches.

common to all parts of the country and thousands of schools have installed mid-day lunch service.

The need for a nourishing noon meal has not recently been discovered—it has been recognized for more than a century. As far back as 1790 the city of Munich, Germany, reported “brighter work” by its school children due to the soup kitchens of Count Rumford. In 1850, France laid the foundations for its now universal “Cantines Scolaires,” or school restaurants. An official report of 1905 shows London to have had, at that time, no less than 160 organizations actively engaged in feeding school children.

Fifteen of the leading countries of the world today have national organizations to assure proper school lunches. School lunches are compulsory in six countries. Fifty cities in America now have daily noon lunch service for children.

All of which only serves to emphasize the need of proper mid-day meals for children and to bring into bold relief the pathetic need of our small town and country schools. For almost universally they have done nothing toward solving the vital problem of proper nutrition of the children under their care.

For two years the city schools of this country have been driving relentlessly in a tireless effort to educate parents to the needs of proper nutritional feeding and the school nutrition classes have accomplished wonders in this respect. But there are still over six million under-nourished children in American schools.

Why? Because the small town and the country school has not yet been able to take up the work. Consequently the responsibility for the proper nourishing of school children in these districts still rests solely upon the shoulders of the parents—and will until the small school is included in the great nutritional feeding movement.

Well, you may ask, who is better qualified to meet this responsibility than the child's own mother? From the findings of the various experts who have investigated the lunches brought to school by children in all parts of the country the answer would seem to be—anybody.

However, it is generally admitted that the American mother has been neglected by those furnishing information on correct feeding methods, and that she is hardly to be blamed for her lack of definite knowledge on a subject that has heretofore been

a closed book to her. For, until very recently, she has had no one to warn her of the dangers of improper feeding, and she has been left without guidance in this vital matter of nutrition. In consequence there are thousands of mothers who can see no great harm in preparing lunches such as the following—which, by the way, were held directly responsible for the physical and mental degeneracy of the three children who carried them to a public school in a small mining town in Pennsylvania:

Lunch No. 1: Cold pancakes and molasses, with cold, greasy two-day-old sausage. Lunch No. 2: Mustard sardine sandwiches and hard boiled eggs, with doughnuts. Lunch No. 3: Cold, leathery fried beefsteak and cold biscuits, with commercial lemon cream pie. Lunch No. 4: Salt herring with chow-chow sauce, buttered white bread and three apples. Lunch No. 5: Cold beefsteak sandwich, cold candied sweet potatoes, and three sticky chocolate eclairs.

The mother of the children who carried this lunch resented very much the questioning of those conducting the investigations, informing them that the lunches were “plenty good enough,” because they accomplished their purpose by “keeping the kids from getting hungry.”

And that was what this particular mother thought food was for—to stop the “kids” from getting hungry.

This would be highly amusing if special investigations did not prove that many a mother apparently intelligent in all other things gave that same explanation for the need of school lunches: to “keep the children from getting hungry.”

And even in these days of agitation for correct nutritional feeding thousands of mothers are daily preparing school lunches for no purpose other than to save Johnny or Millie or Billie or Jennie from the actual physical discomfort of hunger.

“My girl cannot study if she gets hungry,” confided a solicitous mother to the principal of a Chicago school not long ago, “and that is why I permit her to have the candy to eat during recess.”

Yes, that actually happened—and it is little more extreme than the practice of the parent who packs doughnuts, pie, sweetmeats, cream puffs or the like into a school lunch pail.

Now, to consider again the five lunches furnished the children in the Pennsylvania mining town: their sole efficiency lay *in their ability* to smother the appetites of the children. They

were not only worthless as food but were absolutely harmful, being indigestible and in a condition unfit to enter a child's stomach. In the entire five lunches there was found only one item fit to feed to the child of five or under: the fruit. The three apples. The white bread and butter was not exactly undesirable—but whole wheat bread, bran bread, graham bread or rye bread would have been better. The rest of the lunches would have undermined the constitution of the strongest child in the land.

How infinitely much better it would be to permit the children to become hungry and leave school in order to get something to eat, for that matter, than to feed them such foods. In fact, it is much better that they be bothered with hunger than be fed any foods from which they could not extract full nutrition. Hunger is a natural state—and nature protects us against it. But the stomach loaded, drugged with indigestible foods, is not in its natural state, and thus children become mal-nourished and the foundations for a life of physical ailments laid.

Ah, but these are extreme cases. Extreme, but not rare. Nor do such extreme methods need to be followed to accomplish dire results. Lunches of cold, over-rich, over-spiced, over-sweet, greasy, improperly cooked and cold, indigestible food will cause the same trouble.

Give your child a lunch of cold, unattractive foods, of pastries, fried, salted or spiced meats, of foods lacking in the vital nutritive qualities needed for proper nourishment, of ultra-rich foods and extra fancy foods, and give it to him regularly, and you will go a long ways toward ruining his health and breaking down his resistance to disease.

Yes, there are dangers lurking in the lunch pail, especially in that of the growing school child. And it is also true that the usual hit-or-miss method of tossing whatever odds and ends of food are available into the child's school lunch has disastrous effects. For the mid-day meal and the mid-morning bite that the child in school requires is of vital importance to his health and to his physical and mental development. The child must be properly nourished to grow into healthy and useful manhood and womanhood—and nutritious school lunches are insurance that the child will be properly nourished.

This fact is no longer questioned. The schools in a score of American cities have proved it. The warm mid-day lunches

served the children in those schools have increased their weight, their health, their brightness and their happiness. Proper food is a Godsend, improper food a curse.

But how is all this going to help the mother who must pack a lunch for a child to carry to a small town or country school? Have the large city schools developed through their investigations and experiments any definite facts that the mother in the rural community can put to practical use? Can they tell her how to prepare lunches at home that will accomplish the same results as do the lunches they serve in their dining rooms?

They can, and those who have carried the experiment into the country school can add the net of their findings with the lunch pail.

And their first recommendation is the elimination of the old-style tin pail. In its place they advise the modern, sanitary lunch box that can be spread out flat and washed and aired both inside and out. They are neater in appearance and easier to carry and, further, they eliminate the must dampness of the old pail.

The next recommendation is that two or three containers, vacuum containers preferably, be secured. They can be bought in all different sizes and shapes. The vacuum containers are being used now for carrying both hot and cold foods and can be had in such shape as to permit the carrying of beverages or solid foods such as stews, hot vegetables and meats or cold desserts. The value of warm foods cannot be over-estimated, especially in the cold weather. A little warm soup, hot beans or stew and some hot cocoa will do much toward taking the bitter edge off the winter days in the small town or country school.

Next, the need of coarse, plain foods is emphasized. Whole wheat bread, bran muffins, vegetables, the leg of a chicken or rabbit—in other words, real, old-fashioned, plain food. Sandwiches are perfectly permissible, but they should be made of coarse breads and kept free of spiced meats, of bologna and of salads. Fried foods should be avoided and fried steak never included. There are a great number of canned meats that make ideal sandwiches for children, such as potted chicken, ves.¹ loaf, luncheon tongue, and the like.

Whether the lunch box is to be equipped with vacuum containers or not, milk foods must not be neglected. A small bottle of milk should invariably be included if cocoa is not furnished.

Custards, junkets and other cold milk foods form a part of the cold lunch, and if containers for hot foods are available creamed vegetables and cream soups should be freely added to the luncheon.

Yes, the closer to a real meal you can get into that lunch box the better are your child's chances for happy childhood and healthy manhood.

One of the first requirements of the successful lunch is that it be attractive. The children must not tire of it. Variety, therefore, is needed. It can be secured by including fruit sauces, stewed fruits, jams and occasionally jellies. A small jelly glass with a tight fitting top will furnish a suitable container for these, and will also hold junkets, custards, jellies and many of the other healthful and harmless foods that are dear to the child's heart.

And don't forget the nuts. Whole, unshelled nuts are usually the best. Nut butters are also valuable and furnish a variety spread for breads that are pleasing to the little ones.

You will not go wrong by adding a few raisins—and the sound red apple, the round yellow orange, the luscious peach and the juicy pear are welcome for more reasons than one. They are a dessert, a confection and a wholesome food all in one—and a medicine as well.

If you feel that still more variety is needed you may add cookies, plain and nut—but not too sweet.

Pie is strictly undesirable, and cake, unless very plain, not welcome either. This is because the natural tendency of the child is to eat such desserts before touching his meal, and with no one to supervise his luncheon he will almost certainly consume the pie or cake first and so often neglect the balance of the food in the box. That is not the only count against pie, however, as it is not a desirable food for children. Doughnuts, grid-dle cakes and other fried foods should never form a part of a child's lunch and nothing can justify their appearance in the school lunch box.

So much for the lunch box itself. You want to go farther. You want to make some arrangement that will afford the child an opportunity to properly eat what you pack for him. He seldom does this without some kind of supervision. Usually he bolts a sandwich while he plays—a practice hardly beneficial to the digestion.

And this is where the teacher's influence is felt. In many instances a progressive, intelligent teacher takes a hand in the lunch question with good results to all.

One small town teacher of whom the writer recently learned has installed a small kerosene stove in the school and personally supervises the lunches. Each day they all have soup, made from canned goods or fresh vegetables or meats brought by the children, each child supplying his proportionate share. Hot soups, hot stews, warmed over vegetables and hot beverages, either cocoa or milk, are served in this little country school.

This particular teacher each night prepares the menu for the following day and allots to each child the share of food he or she shall bring. Each child continues to bring his own dessert or fruit, but the stews and soups and vegetables are prepared via the community method.

Regarding this plan the young teacher who has developed it says:

"It's really very simple and requires no more time than I would put in warming my own food. And it is cheaper—much cheaper. For example, it is much cheaper for Mary Wheeler to bring two quarts of milk on Friday and a loaf of bread the following Tuesday than it is for her to bring sandwiches and milk every day in the week. And it is cheaper for Johnny Holzer to bring three or four pounds of vegetables to school one day and perhaps a pound of chocolate or cocoa the following week than it is for him to bring hot cocoa and vegetables every day.

"At first we used to make everything at home and merely warm it over here, bringing our soups and stews and beverages all made—ready for reheating. But we have since found it almost as simple, more convenient and cheaper to make our own soups and beverages in the school.

"We all eat together now and it gives me an opportunity to correct faulty feeding habits, to see that the children do not bolt or neglect their food.

"Next year I plan to have a larger stove and to start a cooking class—our experimenting to be done with our own meals. The children will love it, it will furnish us better food at less cost and will prove of great value to those who enter the cooking class. It will take only a half hour a day of school time, as we *have an hour for luncheon* now.

“There is not a child in the school who would rather ‘go it alone’ than have our lunches together as we now do. For my own part, I should hate to go back to the old selfish method of bringing my own lunch and letting the little ones worry along with sandwiches and cold water. Of course, I could go to Mrs. Miller’s boarding house for dinner—but I’d rather do this way. It’s more sociable and human, I think.”

And there are thousands of other teachers in the small town and country schools of America who think the same way—if only someone would co-operate with them. And surely there is no one more fitted for the task of suggesting such a co-operative scheme than the mother of children who are carrying their lunch to school.

It is very doubtful if there is a more vital question facing the American parent today than that of proper feeding for school children, and the foundation of it lies in the school lunch. Yet the school lunch has long been neglected and practically no steps taken to bring about co-operation between the teachers and the children, both of whom are suffering from the same evil—lack of variety in food, lack of warm food and lack of proper dining facilities—an evil that they could easily correct if someone would take the initiative and suggest just the remedy that the young teacher mentioned has developed.

Following are given menus for school lunches to be carried from the home by the children.

The caloric values listed in connection with these lunches enable the mother to determine the correct amount of food to be given, and in the chapter “Feeding The Child” she will find a schedule showing the caloric requirements of children of varying ages.

She will remember, of course, that these caloric values are offered to help her form an idea of the amount of food required to properly nourish the average child; that they are not arbitrary, and that she will determine the amount of food her child shall receive by careful observation of its appetite and general physical condition. This because individual children have their individual requirements and peculiarities.

	Calories
3 sandwiches	370
3 thin slices bread.....	150
2 tsp. butter	70
6 dates	100
3 nuts (walnuts)	50
1 stalk celery	5
½ cup custard.....	100
1 cup milk	160
2 Graham crackers	100
	<hr/>
	735

3 sandwiches	325
3 thin slices bread.....	150
2 tsp. butter	70
1 cubic inch cheese	100
Lettuce—2 leaves	5
	<hr/>
Gingerbread—2x2x1	100
Apple sauce—2 heaping tbsp.	100
1 cup milk	160
	<hr/>
	685

3 sandwiches	320
3 thin slices bread.....	150
2 tsp. butter	70
1 egg	100
2 stalks celery	10
1 banana	100
1 large cooky	100
1 cup milk	160
	<hr/>
	690

Following are menus for lunches prepared at the school:

MONDAY:	Calories
Macaroni and cheese..... 1 cup	200
Buttered beets	20
Bread (whole wheat)..... 3 slices	225
Stewed raisins	100
Milk	160
	<hr/>
	720

TUESDAY:

Beef stew	1 cup	200
Bread (whole wheat).....	3 slices	225
Chocolate custard pudding....	2 heap. tbsp.	100
Milk	$\frac{1}{2}$ pint	160
		<hr/>
		685

WEDNESDAY:

Spanish rice	1 cup	100
Bread (whole wheat).....	3 slices	225
Apple sauce	2 tbsp.	100
Milk	$\frac{1}{2}$ pint	160
		<hr/>
		595

THURSDAY:

Baked beans	1 cup	300
Celery	2 stalks	5
Bread (whole wheat).....	3 slices	225
Prunes	6	100
Milk	$\frac{1}{2}$ pint	160
		<hr/>
		790

FRIDAY:

Cream of celery soup.....	8 oz.	200
Bread (whole wheat).....	3 slices	225
Butter	2 heap. tsp.	100
Rice pudding with raisins....	2 heap. tsp. ..	100
Milk	$\frac{1}{2}$ pint	160
		<hr/>
		755

More Food Value for Less Money

THIS book would fall short of its intention should it fail to touch upon the important question of food cost. For the subject of price is a vital one, as the acceptance of many kinds of foods depend upon their cost.

About forty per cent of the money spent by the average American family is paid out for food, and as the average diet is largely shaped to fit the family purse every housewife is eager to know how she can get the most for her money in the buying of food as well as in the purchase of other essentials.

We all realize that economy in the kitchen is laudable, especially these days of waste and high prices, and that the housewife who substitutes other foods for those which have been elevated to luxury levels is doing a service not only to her own family, but to the whole nation—and for this she deserves unstinted credit. Economy is an undoubted virtue, especially when it helps conserve the nation's food supply.

But in our enthusiasm to do our share toward beating the high cost of living we must not forget one fact: anything that tends to lessen the nutritive value of meals prepared for children is undesirable. "Undesirable" is too weak a word; it is foolish, dangerous, vicious! Any mother who, for the sake of economy or convenience, lessens the strength giving qualities of a child's ration is committing a grave blunder, and one that will surely cause her untold future trouble, worry and sorrow.

As ye eat so shall ye reap!

Poor food in childhood means poor health in manhood and womanhood.

Remember those blunt truths every time you take down your cook book or note book to find a substitute food.

There is but a single use for food; to furnish nutritive value to the human body—to stoke the human engine. A food is worth only as much as the nutritive value it supplies; its true value is measured by the amount of fuel it furnishes the body. As a luxury it may be priced higher, but it is worth only the actual

amount of food value it contains. If you buy food for its looks and its flavor this chapter is not for you. But if you are looking for food value, for strength and health giving qualities for your children it can help you cut the cost of food.

Once more, however, we must emphasize this warning: You may economize on foods, but you must not economize on nutritive quality, on food value.

And so mark this as rule number one; we must not attempt to economize on milk. As we have pointed out before milk is the one and only perfect food—the one food without which the human race could not exist. Milk is absolutely vital—especially to children. Penny for penny, ounce for ounce, or pound for pound milk is the most valuable and economical food which science has discovered. Not only is it in itself perfectly adaptable to the needs of the human body but it can even act as a neutralizer for undesirable foods, offsetting in many instances, the harmful consequences of improper feeding. So valuable is it that one might almost classify milk as medicinal. Its generous use tends to adjust and aid our digestive processes.

Milk that is used in the preparation or cooking of other foods is never lost, its valuable qualities being added to the dish it enriches.

Milk will accomplish nutritional miracles almost beyond belief. A pint of milk added to the diet of the children of the public schools of the City of Chicago resulted in better health; increased weight; more rapid growth; clearer minds and all round better children.

The records of these schools show that in cases of under-weight and mal-nutrition the addition of a pint of milk a day increased weight as much as a pound a week.

For the health of America we should consume twice as much milk as we now do.

So we must not for an instant consider economizing on milk or attempting to find a substitute for this precious food.

And now for rule number two: do not buy food merely because it is cheap—buy it, instead, for the food value it contains.

Is this, you may ask, merely another way of saying that one cannot use substitute foods, cannot really reduce food bills at all?

The answer is anything but that—and here is the proof: Consider the exalted sirloin steak for an instant. It costs about three times as much as does the lower round or the flank steak and is slightly less nutritious, a pound of sirloin generating 1,130 Calories of food value as against flank steak's 1,255 Calories. And because it is fried instead of being thoroughly cooked—as is necessary with the cheaper steaks—it is less easily digested and consequently is much less desirable, especially as food for children.

Fried meats are disastrous to the child—but the protein value of rightly cooked meats are of great value to him. Meats steamed or stewed until the flavorsome, rich and nourishing juices are extracted and blended with the softened tissues, make an excellent food for children.

Therefore a cheap meat with equal food value that can be prepared in this manner will prove doubly desirable as a substitute for the expensive steak.

Cuts from the flank and neck are selling for less than one-half the prices of expensive steaks—and yet are higher in food value. When thoroughly boiled such cuts yield a dish exceptionally high in food value, and at the same time one that is easily digested.

Then there is the veal shank. Such a shank sells for fifteen cents and will afford a serving for five or six. One mother explains a method of utilizing this cheap meat that furnishes a substantial hot meal for the children and a delicious cold dish for grown-ups (and for the little ones, too) at a single cooking.

She places a fifteen cent veal shank in a kettle of cold water, seasons it and adds a tablespoon of dried celery leaves, a little chopped onion and sometimes the left-over of a can of tomatoes.

This she boils until the meat comes free of the bone. Meanwhile, in another kettle, she has been boiling a little of whatever vegetables she may have on hand—carrots, turnips, peas or beans.

Pouring two cups of the stew, with a good helping of the meat, into the vegetables she holds it at a brisk boil for five minutes.

It is then ready to serve—rich in protein, in fat, in carbohydrates and if vegetables are freely used, in mineral salts.

In the absence of vegetables this stew is sometimes served with barley, rice, whole wheat or macaroni. Dried lentils also serve well for this purpose.

Unless the family is a large one the entire meat stew is seldom used. Generally more than half of it is left. This veal stew poured into a mold or jar and left to stand a few hours forms into a firm, nutritious jelly and can well be made the foundation of a cold meal. During the summer months when vegetables are cheap, vegetable dinners spiced with a slice or two of this jellied veal prove popular, cheap and tasty. Its food value is high.

Twenty-five cents worth of food prepared as veal stew or jellied veal will furnish a meal for five. That means fifteen cents for the veal shank and ten cents for vegetables or cereal.

Fish have always been considered the ideal substitute for meat. But fish are not especially cheap these days—that is, most fish are not.

But here again the housewife can profitably select those most reasonably priced. In food value, perch, bullhead and herring are equal to their more expensive brothers—yet they cost little more than half as much.

Fish chowders, baked boned fish, boiled fish—in fact fish prepared in any way but sauted or fried afford a valuable food for the children as well as for the grown-ups.

Another important fact to remember, according to those practical workers who are preparing menus to help the price-harassed housewife, is that quantity buying is highly advisable. Generally it means considerable saving.

The greatest element in successful buying, according to one of these workers, is the ability to substitute—to stop buying expensive food combinations and substitute cheap ones in their place. This demands some knowledge at least of the nutritional content of our various foods. Charts showing the exact composition of each food are easily obtained, and by consulting them the housewife will have no trouble making combinations that will afford the right food value and at the same time, permit the buying of the cheapest foods.

As the price of foods vary so with the seasons and with market conditions it is advisable for housewives to check up on

all food prices at least once every three weeks—with a view to always using those foods which are cheapest.

We are, unfortunately, strangely ignorant of the value and use of cereals and grains. Take the whole wheat, for example—the wheat just as it comes from the farm. It is cheap—two or three cents a pound. Yet a pound of whole wheat is more nutritious than a pound of the most expensive, or the most nutritious, meat. It is the equal of a pound of egg meat—that is, of a pound of the white and yolk of egg—and surpasses almost any other food in the possession of pure food value, being balanced in protein, fat, carbohydrate and mineral salts, and also being possessed of the much valued vitamins.

Boiled and served with milk, cracked or ground and cooked into a cereal or made into bread or cakes wheat supplies an ideal food for child and adult. Ground whole corn, oats and barley are also cheap in cost and rich in food value. Use them for cereals and in place of meat occasionally.

And we must not forget the vegetables as there are seasons when they are cheap. Also there are times when fish is available at reasonable prices. To get the most for our food dollar we must learn to take advantage of these opportunities.

To do this intelligently we need but consider food values themselves. We need but to realize how much of each kind of nutriment our bodies require and then supply those different nutritive elements via the cheapest foods.

When we deal in actual nutritive values, in proteids, carbohydrates, fats and mineral salts, we stand on the only true foundation upon which we can base our comparison of costs. And when we figure nutritive values alone we discover that science has developed wholesome and economical foods by the combining of two or more nutritional substances. We learn that we do not depend entirely upon expensive olive oil for our culinary oils, nor upon lard for our shorteners and frying agencies. Instead we find that science has compounded mixtures that are equally efficient and much cheaper. This because science has, in accomplishing this, utilized foods and food-products hitherto considered of little value.

There is a cooking compound made of skim milk enriched with cocoanut oil that will illustrate this point. Skim milk has

for years been a drug on the market—considered by many valueless not only as a merchandising product but as a food as well. But skim milk is not valueless, as it contains the finest of all protein: casein, the best carbohydrate; milk sugar; and the highly valued mineral salts. It lacks only fat. The cocoanut oil, however, supplies this quality and makes the compound a balanced food which can be bought at a substantial saving over the old styles of shortenings and cooking compounds.

Many of the foods we now eat are scientific compounds of several nutritive elements, many of which have been reclaimed from waste. And so Science has helped introduce economy in our foods.

But, unfortunately, these combinations are not always entirely beneficial, as in some instances inferior products are marketed in such combinations and it often happens that such synthetic foods are recommended for use where they do not belong and cannot serve well. Such a condition is found in the manufacture and use of self-rising flour.

So, while we accept these synthetic foods as helps to economy, we must not fail to analyze them to determine their real nutritional value.

A penny saved in inferior food is a dollar lost in health.

Neuro-Dystrophia Americana

THIS is not a medical dictionary—but there is one disease that deserves mention in these pages. It is Neuro-Dystrophia Americana. It means the destroyed nerves of America—so to speak.

It is not a new disease, though the name is. Only within the last year have the scientists been able to isolate and name this disease. Before it was known under a hundred different titles was attributed to a hundred causes. Beginning with “backwardness,” lack of vigor, underweight, malnutrition and working into the dread beri-beri, acidosis and kindred troubles including scurvy and rickets a certain condition of improper nourishment preyed upon the children of America, and the whole world, too. This condition was for years considered a single symptom or contributing cause and often regarded as a result of some of the above mentioned diseases and sicknesses of childhood.

Within the last year, however, our physicians, scientists and nutrition experts have discovered that a single disease will cover all these symptoms and this great, general complaint they call Neuro-Dystrophia Americana.

And they have discovered something else, too. They have learned that this widespread and powerful enemy of healthful childhood is the direct result of deficient and improperly balanced food and that it is curable under the right diet.

One great cause of deficiency in food is found in the lack of proper vitaminic content. These vitamins are certain undefinable properties contained in whole or natural foods, properties which cannot be isolated and put under the microscope but which are nevertheless definitely recognized and specified as to their names and the services they perform.

There are three vitamins: Fat soluble A, water soluble B, and water soluble C. Some foods possess all three vitamins, as in the case of milk, germinated cereals, carrots, cabbages and liver. These foods, however, are very few and far between.

Some foods possess two vitamins, as with salmon, beef heart, eggs, whole grains, soy beans, potatoes with skins on, and nuts. There are also those foods which possess only one vitamin as string beans, lemons, onions, and yeast. Then again, some foods possess no vitamins at all; polished rice, degerminated corn, meat extract and many other processed foods.

The work of the vitamins is really to fit the body to utilize the various food values taken into it and in performing their respective functions they furnish the quality necessary for protection against various diseases.

Vitamin Fat Soluble A is the chemical substance found in solution in the fat parts of certain foods and is, according to many experts, absolutely essential to growth. This vitamin plays an important part in preventing rickets and has been called the anti-rachitic vitamin. This vitamin is contained in the following foods:

Cream	Oranges
Butter	Tomatoes
Yolks of Eggs	Cod Liver Oil

Vitamin A is also found in most fats extracted from cellular tissues, like oil from the liver and kidneys, notably cod liver and fresh liver oils. It is also found in variable amounts in some oleomargarines prepared from animal fats (except lard); also in oils contained in the green parts of some plants—such as spinach and alfalfa, likewise in the oils of certain roots and tubers, like sweet potatoes.

The fat soluble A vitamin is not found in ordinary lard, cocoanut, linseed, almond or olive oil. It is not found in oleomargarines prepared from vegetable fats or in the rarified commercial oils from plant products.

(We must remember that these are valuable foods, high in caloric value and that when accompanied by vitamin-rich foods perform a very valuable and necessary part in the nourishing of our bodies.)

Oranges and tomatoes contain not only Fat Soluble A but *vitamins B and C* as well. In consequence these two foods may

be used to furnish a balance to a diet of foods deficient in any one of the vitamins.

Water soluble B vitamin is a chemical substance found in solution in the water part of certain foods. It is not only growth producing but occupies the very brilliant position of being a great nutrition-promoting and appetite-awakening element, aiding the body to fully assimilate into its tissues all the food taken that is usable. It is also a vital food factor in preventing "beri-beri" and malnutrition and we call it the anti-beri-beri vitamin. This vitamin is contained in the following foods:

Yeast	Kidneys
Milk	Liver
Eggs	Fruits (Particularly oranges)
Whole grains	Vegetables (Particularly tomatoes)
Hearts	

Yeast is richer in Vitamin B than any other food. Milk is a good, stable source of this accessory food substance.

Whole grains, which may be served whole, cracked, crushed, rolled, shredded or ground into meal or flour contain this vitamin—and they contain it because they are a natural food. When commercially treated or "processed" these grains reach us as polished rice, pearled barley, degerminated cornmeal and white flour, and in this condition they are deficient, unnatural foods. These foods still contain their caloric content, their proteins and their carbohydrates, but have been robbed of their mineral salts and vitamins.

Of the fruits oranges are richest in vitamins B, with the other citrus fruits; lemons, limes and grapefruit following. Apples and pears contain but little of this vitamin B while in bananas it is practically negligible.

Tomatoes contain as much greater quantity of vitamin B than does any other vegetable, with spinach ranking next, followed by peas, green beans, cabbage, carrots, turnips, lettuce, celery, onions, beets and potatoes, both sweet and white. Proportionately the potato possesses a rather low content of B vitamin, but owing to the quantity of this vegetable we consume it really adds a rather substantial amount of this food accessory substance to our diet.

While eggs, liver, kidneys and hearts are rich in B vitamines, lean meat and fish contain relatively little.

The third vitamin which science has identified is the Anti-Scorbutic vitamin, protecting child and adult against the dread disease of scurvy and the more prevalent forms of scurvy-malnutrition.

We must be prepared to find in our children, not the severe symptoms of scurvy so much as the milder beginning signs that show themselves first in the "muddy complexion," lack of appetite and energy, stationary weight and irritability.

This vitamin—except in orange and tomato juice—may be injured by heat and drying; that, therefore, the process of preserving foods for future use must be carefully studied. This vitamin is contained in the following foods:

Milk, fresh fruits, fresh vegetables.

Of the fruits, the citrus fruits such as oranges and lemons are richest in the anti-scurvy or Water Soluble C vitamin.

The tomato leads the vegetables in C vitamin content.

The more freshly picked the vegetable or fruit the more potent the vitamin content. When we understand that by serving the freshest of these foods we are assuring ourselves and our children the greatest value in vitamins we will be more particular in selecting these foods and also in canning or drying them, as the sooner the preserving process is started after picking the richer the vitamin content. If the utmost care is taken in gathering the food, in the drying, canning and other preserving methods, canned fruits, vegetables and milk can be so handled as to retain their antiscorbutic value.

And so we may look to the canned and preserved foods for vitamins, too—that is, to those foods which are put up with a view to saving this quality.

We give these facts about vitamins in order that you may be in a position to understand their true place in the diet and will be able to draw upon them as your need arises. You know now just what foods contain them and what foods are deficient in them. To balance your rations to include the correct amount of vitamins should now be a simple matter.

One thing we must remember, at all times—the vitamine is not the whole diet. It is just one small feature of it. Too much stress has recently been laid upon the importance of the vitamine and it has been permitted to overshadow all other food values.

The vitamine is important, but a well-balanced meal of natural foods automatically takes care of this vitamine need. Re-read the chapter—Those Precious Salts.

Bear in mind that milk, good, wholesome, rich milk is the perfect food, and this, together with a variety of plain, complete foods is the answer to all nutrition problems. A quart of milk a day for each child—and Neuro-Dystrophia Americana will find no place in your home.

In the Chicago public schools an extra pint of milk a day was fed the children—with the result that the average gain was almost a pound a week.

In the Chapter on Those Precious Salts you will read of the need of Calcium, of iron and of the other mineral salts. Milk is rich in those vital qualities—a glass of milk containing more lime than an equal amount of lime water.

Select complete, natural foods, use plenty of milk, balance your meals as to their protein, fat, carbohydrate and mineral salt content and your feeding problem is solved.

COOKING TIME

Roasting or Baking Meats and Fish

Beef, ribs or loin, rare, per pound.....	8 to 10 minutes
Beef, ribs or loin, well done, per pound.....	12 to 16 minutes
Beef, ribs, rolled, rare, per pound.....	12 to 15 minutes
Beef, ribs, rolled, well done, per pound.....	12 to 15 minutes
Beef, fillet, rare	20 to 30 minutes
Mutton, leg, rare, per pound.....	10 minutes
Mutton, leg, well done, per pound.....	14 minutes
Mutton, saddle, rare, without flank, per pound.....	9 minutes
Mutton, loin, rare, per pound.....	9 minutes
Mutton, forequarter, stuffed, per pound.....	15 to 25 minutes
Lamb, well done, per pound.....	15 to 18 minutes
Veal, well done, per pound.....	18 to 20 minutes
Pork, well done, per pound.....	20 minutes
Venison, rare, per pound.....	10 minutes
Chicken, per pound	15 or more minutes
Turkey, 8 to 10 pounds.....	3 hours
Goose, 8 to 10 pounds.....	2 hours or more
Duck (domestic)	1 hour or more
Duck (wild)	15 to 30 minutes
Grouse	about 30 minutes
Small birds	15 to 20 minutes
Pigeons (potted, or encasserole).....	2 to 4 hours
Ham	4 to 6 hours
Fish, whole, as bluefish, salmon, etc.....	1 hour or more
Small fish and fillets	20 to 30 minutes
Baked beans with pork.....	6 to 8 hours

Broiling

Steak, 1 inch thick.....	4 to 10 minutes
Steak, 1½ inches thick	8 to 15 minutes
Lamb, or mutton chops.....	6 to 10 minutes
Quails	8 to 10 minutes
Quails in paper cases.....	10 to 12 minutes
Squabs	10 to 12 minutes
Spring chicken	20 minutes
Shad, bluefish, etc.....	15 to 30 minutes
Slices of fish.....	12 to 15 minutes
Small fish, trout, etc.....	5 to 12 minutes

Frying

Whitebait, croquettes, fish-balls.....	1 minute
Muffins, fritters and doughnuts.....	3 to 5 minutes
Breaded chops	5 to 8 minutes
Fillets of fish	4 to 6 minutes
Smelts, brook trout, etc.	3 to 5 minutes

TABLE OF COOKING TIME (Continued)

Boiling Meat and Fish

Fresh beef	4 to 6 hours
Corned beef (rib or flank).....	4 to 7 hours
Corned beef, fancy brisket.....	5 to 8 hours
Corned tongue	3 to 4 hours
Leg, or shoulder of mutton.....	3½ to 5 hours
Leg, or shoulder of lamb.....	2 to 3 hours
Turkey, per pound.....	15 to 18 minutes
Fowl, 4 to 5 pounds.....	2 to 4 hours
Chicken, 3 pounds	1 to 1½ hours
Ham	4 to 6 hours
Lobster	25 to 30 minutes
Codfish and haddock, per pound.....	6 minutes
Halibut, whole, or thick piece, per pound.....	15 minutes
Bluefish, bass, etc., per pound.....	10 minutes
Salmon, whole, or thick cut.....	10 to 15 minutes
Small fish	6 to 8 minutes
Clams and oysters.....	3 to 5 minutes
Braised meats	3 to 5 hours

Boiling of Vegetables, Coffee, etc.

Asparagus	20 to 25 minutes
Beans, string or shell.....	1 to 2 hours
Beets, new	45 minutes to 1 hour
Beets, old	4 to 6 hours
Beet greens	1 hour or longer
Brussels sprouts.....	15 to 20 minutes
Cabbage	30 to 80 minutes
Carrots	1 hour or longer
Cauliflower	20 to 30 minutes
Celery	2 hours or longer
Corn	10 to 20 minutes
Macaroni	20 to 60 minutes
Onions	45 minutes to 2 hours
Oyster plant	45 to 60 minutes
Parsnips	30 to 45 minutes
Peas	20 to 60 minutes
Potatoes, white	20 to 30 minutes
Potatoes, sweet	15 to 25 minutes
Rice	20 to 30 minutes
Squash	20 to 30 minutes
Spinach	15 to 20 minutes
Tomatoes, stewed	15 to 20 minutes
Turnips	30 to 45 minutes
Coffee	3 to 5 minutes

Baking of Bread, Cake, Custards, and Puddings

Loaf Bread	40 to 60 minutes
Rolls, biscuit	10 to 30 minutes
Muffins, yeast	about 30 minutes
Muffins baking powder	20 to 25 minutes
Sponge cake, loaf.....	45 to 60 minutes
Plain loaf cake	30 to 90 minutes
Layer cake	15 to 20 minutes
Fruit cake	2 to 3 hours
Small cakes	15 to 25 minutes
Custards	20 minutes to 1 hour
Steamed brown-bread	3 hours
Steamed puddings	1 to 3 hours
Pie crust	35 to 45 minutes
Potatoes	30 to 45 minutes
Scalloped and au Gratin dishes	10 to 20 minutes
Timbales	about 20 minutes

WEIGHTS AND MEASURES

3 teaspoonfuls of liquid.....	equal.....	1 tablespoonful
3 tablespoonfuls of liquid.....	equal.....	$\frac{1}{2}$ gill, or $\frac{1}{4}$ cup
$\frac{1}{2}$ cup	equals.....	1 gill
2 gills	equal.....	1 cup
2 cups	equal.....	1 pint
2 pints (4 cups)	equal.....	1 quart
4 cups of liquid	equal.....	1 quart
4 cups of flour.....	equal.....	1 pound or 1 quart
2 cups of butter, solid.....	equal.....	1 pound
$\frac{1}{2}$ cup of butter, solid.....	equals.....	$\frac{1}{4}$ pound, 4 oz.
2 cups of granulated sugar.....	equal.....	1 pound
$2\frac{1}{2}$ cups of powdered sugar.....	equal.....	1 pound
1 pint milk, or water.....	equals.....	1 pound
1 pint of chopped meat (solid).....	equals.....	1 pound
10 eggs (without shells)	equal.....	1 pound
8 eggs, with shells	equal.....	1 pound
2 tablespoonfuls of butter	equal.....	1 ounce
2 tablespoonfuls of granulated sugar.....	equal.....	1 ounce
4 tablespoonfuls of butter	equal.....	2 oz. or $\frac{1}{4}$ cup
4 tablespoonfuls of flour	equal.....	1 ounce
4 tablespoonfuls of coffee	equal.....	1 ounce
1 tablespoonful of liquid.....	equals.....	$\frac{1}{2}$ ounce

CALUMET

Raise the Banner of Good Health

Don't forget that Good Health is possible only with Good Digestion.

For good digestion foods must be attractive, light and flavorsome. Heavy, leathery foods are never easily digestible.

CALUMET is guaranteed to *raise* your foods to fluffy, tempting lightness.

CALUMET never fails. It is protected by the best materials, the best chemists, the best laboratories, the best manufacturing methods and the best recipes.



Pound can of Calumet contains full 16 oz. Some baking powders come in 12 oz. instead of 16 oz. cans. Be sure you get a pound when you want it.

Calumet Bread

4 cups flour 6 level teaspoons
 1½ teaspoons salt Calumet
 1½ level teaspoons Baking Powder
 1 egg 2 cups of milk.
 Sift baking powder, flour and salt together. Add milk and melted fat and mix. Work into loaves, pan and bake in hot oven 30 minutes. Graham flour may be used instead of white flour.

Raisin Bread

Same as for Calumet Bread—but add:
 ½ cup sugar 1 cup raisins
 Add sugar with flour and add raisins when partly mixed.

Oatmeal Muffins

1 cup warmed 4 level teaspoons
 cooked oatmeal Calumet Baking
 3 cups flour Powder
 1½ cups milk 1 egg, well beaten
 ¼ cup sugar 1 tablespoon melted
 1 teaspoon salt butter
 Add milk to warm oatmeal. Sift together flour, sugar, baking powder and salt, and add to oatmeal. Then add egg and butter.

Calumet Nut Cookies

½ cup butter 1 level teaspoon
 ½ cup sugar Calumet Baking
 2 eggs Powder
 ¼ cup flour 1 teaspoon lemon
 ¾ cup chopped nuts juice
 Cream butter and add sugar and eggs well beaten. Sift flour and baking powder together. Add first mixture; then add nuts and lemon juice and enough milk to make a soft dough. Drop from a spoon on an un buttered baking sheet, leaving an inch in space between them. Sprinkle with chopped nuts—bake in a very slow oven. This will make two dozen cookies.

Entire Wheat Griddle Cakes

1 cup entire Wheat ¼ teaspoon salt
 Flour 2 tablespoons sugar
 1 cup bread flour 1 egg
 3 level teaspoons 2 cups milk
 Calumet Baking 1 tablespoon melted
 Powder butter
 Sift together flour, sugar, baking powder and salt. Beat egg; add milk, and pour slowly upon first mixture. Beat thoroughly and add butter.
 NOTE—Graham Flour Cakes can be made as above, substituting Graham for Entire Wheat Flour.

Graham Muffins

1 cup white flour 1 teaspoon salt
 1 cup Graham flour 1 cup milk
 1 tablespoon sugar 1 egg, well beaten
 3 level teaspoons 1 tablespoon melted
 Calumet Baking butter
 Powder
 Sift together flour, sugar, baking powder and salt. Add gradually milk, egg and butter. Bake in hot buttered gem pans 25 minutes.

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 2 cups of milk.
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Raisin Bread

Same as for Calumet Bread—but add:

½ cup sugar 1 cup raisins
 Add sugar with flour and add raisins when partly mixed.

Oatmeal Muffins

1 cup warmed 4 level teaspoons
 cooked oatmeal Calumet Baking
 3 cups flour Powder
 1½ cups milk 1 egg, well beaten
 ¼ cup sugar 1 tablespoon melted
 1 teaspoon salt butter
 Add milk to warm oatmeal. Sift together flour, sugar, baking powder and salt, and add to oatmeal. Then add egg and butter.

Calumet Nut Cookies

½ cup butter 1 level teaspoon
 ½ cup sugar Calumet Baking
 2 eggs Powder
 ¼ cup flour 1 teaspoon lemon
 ¼ cup chopped nuts juice

Cream butter and add sugar and eggs well beaten. Sift flour and baking powder together. Add first mixture; then add nuts and lemon juice and enough milk to make a soft dough. Drop from a spoon on an unbuttered baking sheet, leaving an inch in space between them. Sprinkle with chopped nuts—bake in a very slow oven. This will make two dozen cookies.

Entire Wheat Griddle Cakes

1 cup entire Wheat ¼ teaspoon salt
 Flour 2 tablespoons sugar
 1 cup bread flour 1 egg
 3 level teaspoons 2 cups milk
 Calumet Baking 1 tablespoon melted
 Powder butter

Sift together flour, sugar, baking powder and salt. Beat egg; add milk, and pour slowly upon first mixture. Beat thoroughly and add butter.

NOTE—Graham Flour Cakes can be made as above, substituting Graham for Entire Wheat Flour.

Graham Muffins

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 1 tablespoon sugar 1 egg, well beaten
 3 level teaspoons 1 tablespoon melted
 Calumet Baking butter
 Powder

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